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FEDERAL TRADE COMMISSION

COAL

No. 1

REPORT ON
COST OF PRODUCTION OF BITUMINOUS
COAL IN PENNSYLVANIA

JUNE 30, 1919



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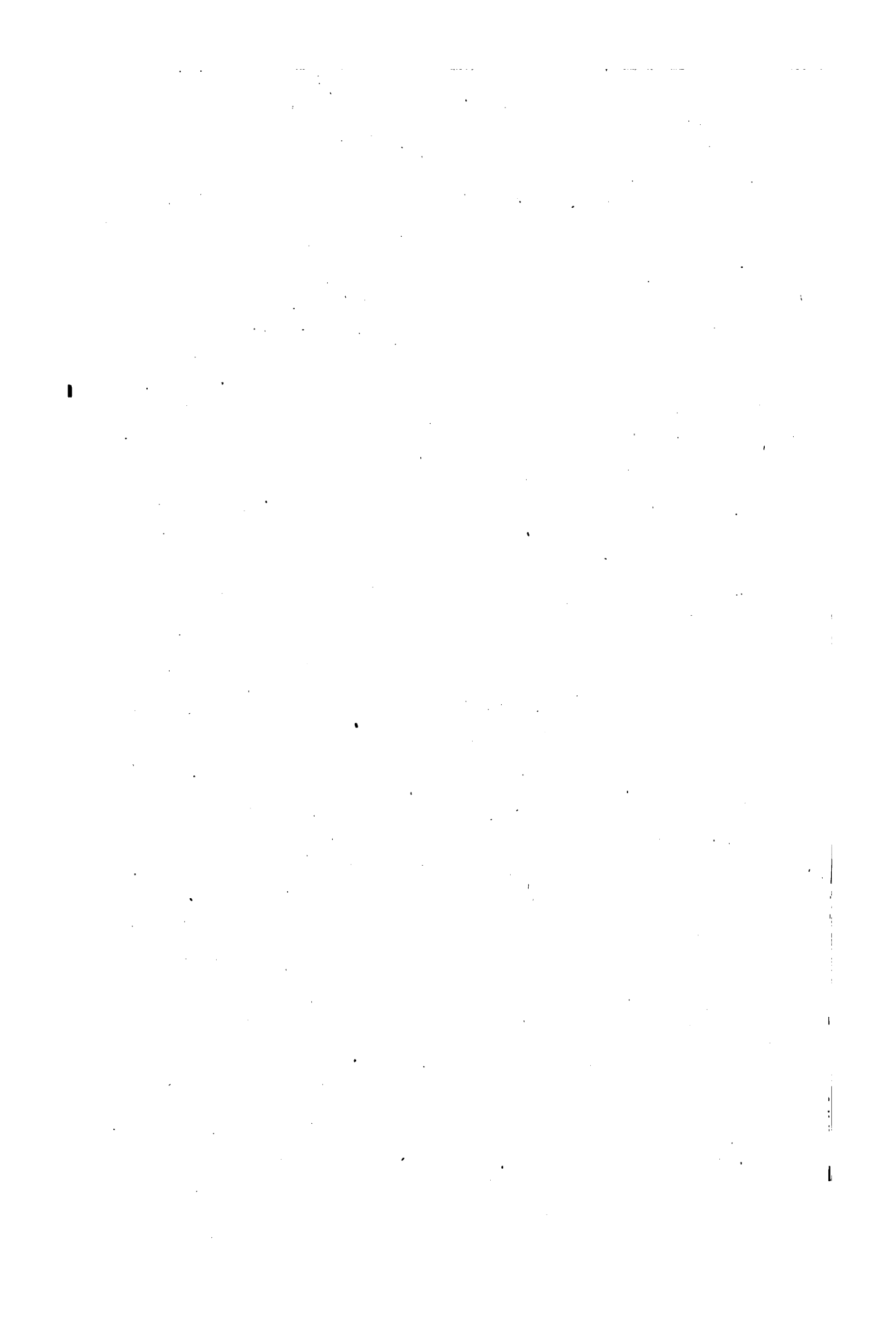


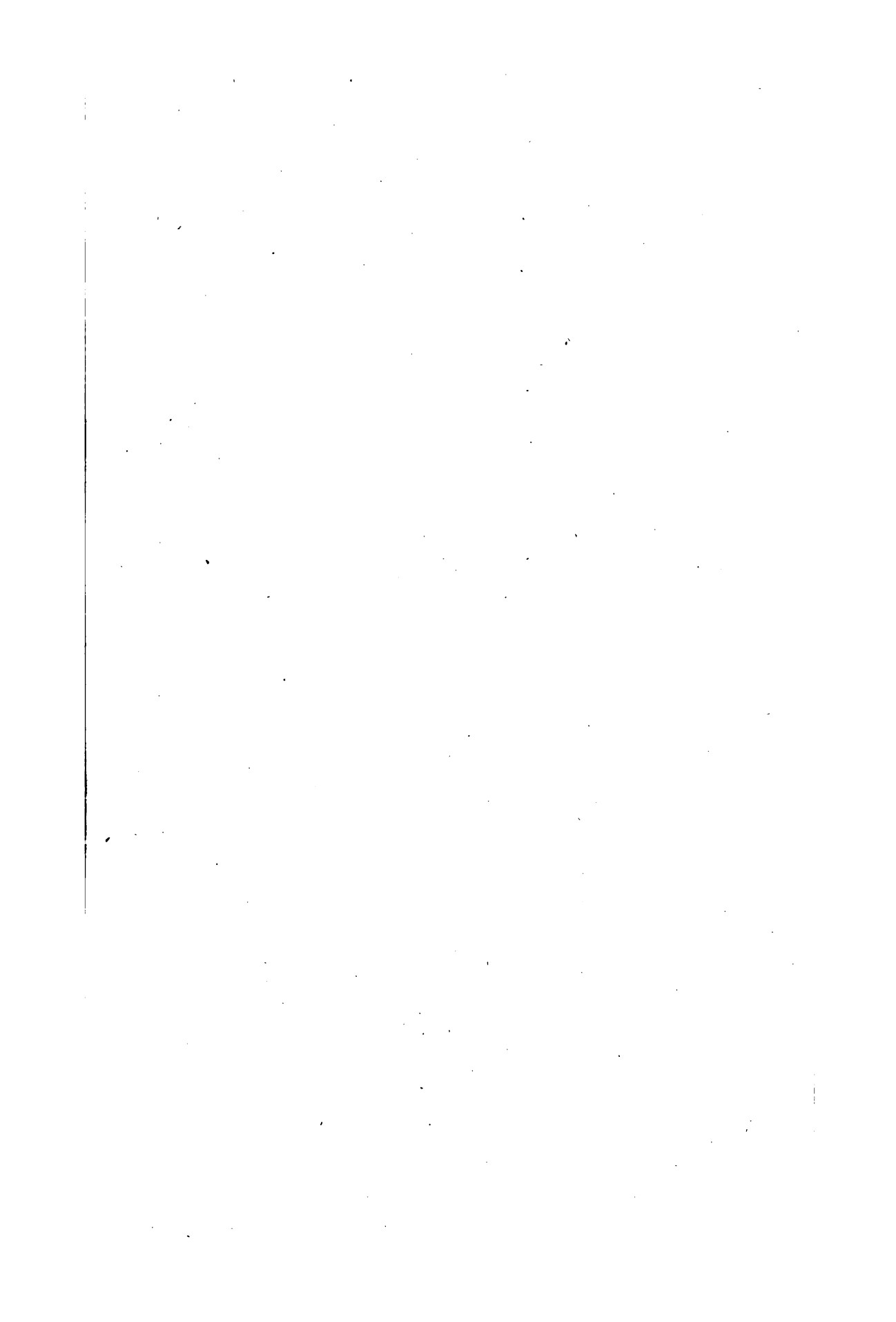
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COST REPORTS c#
OF THE
FEDERAL TRADE COMMISSION

COAL

No. 1

PENNSYLVANIA—BITUMINOUS

JUNE 30, 1919



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FEDERAL TRADE COMMISSION.

JOHN FRANKLIN FORT, *Chairman.*
VICTOR MURDOCK.
HUSTON THOMPSON.
WILLIAM B. COLVER.

J. P. YODER, *Secretary.*

OCT 15 1937

J. M. L.

ACKNOWLEDGMENT.

The Commission desires to express its appreciation of the services of the many employees, present and former, who under the general direction of David L. Wing have contributed to the preparation of the series of coal cost reports, of which this is the first.

LETTER OF SUBMITTAL.

JUNE 30, 1919.

TO THE CONGRESS OF THE UNITED STATES:

The Federal Trade Commission herewith submits a report on the cost of producing bituminous coal in the Southwest and the Central Fields in the State of Pennsylvania. This report covers certain factors in the information for these fields obtained by the Commission at the direction of the President and in aid of the United States Fuel Administration for its use in regulating prices and distribution of coal under the Lever Act, as well as additional information obtained by the Commission for earlier periods.

For the year 1918 the data herewith set forth cover the operations of 624 operators who mined about 152,000,000 net tons from 1,251 mines, and for the years 1916 and 1917 the operations of 50 operators who mined about 32,000,000 net tons annually.

The Commission obtained similar information, covering in all about 95 per cent of the bituminous coal tonnage mined in the United States from August, 1917, through December, 1918, and 99 per cent of the production of anthracite coal mined from January, 1917, through December, 1918.

In this report are shown the Total F. O. B. Mine cost (with its three major subdivisions of Labor cost, Supplies cost, and General Expense), the Sales Realization received by the operators, and the Margin between it and the Total F. O. B. Mine cost. From this Margin would have to be paid Sales Expense (where any was incurred), Interest and Federal taxes, the remainder being available for Surplus and Dividends.

The costs and sales realizations are shown below for each quarter of 1918 and the year as a whole for 199 operators in the Southwest Field and 425 operators in the Central Field. All operations fully reported produced about 88 per cent of the combined output for the two fields in 1918.

Period.	Southwest Field.						Central Field.					
	Labor.	Supplies.	General ex-penses.	Total f. o. b. mine.	Sales realization.	Mar-gin.	Labor.	Supplies.	General ex-penses.	Total f. o. b. mine.	Sales realization.	Mar-gin.
1918.												
January-March.	\$1.36	\$0.27	\$0.32	\$1.95	\$2.72	\$0.77	\$1.58	\$0.23	\$0.30	\$2.11	\$3.04	\$0.93
April-June.....	1.28	.26	.29	1.83	2.49	.66	1.57	.25	.30	2.12	3.11	.99
July-September.	1.31	.28	.28	1.87	2.43	.56	1.61	.28	.30	2.19	3.02	.83
October-December.....	1.38	.36	.32	2.06	2.40	.34	1.71	.35	.37	2.43	3.03	.60
Year.....	1.33	.29	.30	1.92	2.50	.58	1.62	.27	.32	2.21	3.05	.84
Production for year.....	87,963,186 tons.						63,962,057 tons.					

NOTE.—All units are shown per ton of 2,000 pounds.

Returns were received also for a less period than 12 months from 66 operators in the Southwest Field who had an estimated total annual production of about 4,000,000 tons, and from 107 operators in the Central Field who had an estimated total annual production of about 5,000,000 tons. Examination of such returns for the months they were available shows that had it been possible to secure reports for the whole 12 months, the averages shown in the foregoing table would not be changed more than 1 or 2 cents per ton, if at all. All mines from which returns were received covered about 94 per cent of the 1918 output.

A study made in each field brings out clearly the lower cost of production, particularly in the item of labor, of the thicker seams mined. This information has an important bearing in forecasting the effect which a change in the wage scale has on the cost of mines operating on seams of different thicknesses in a given field.

Average costs and sales realizations of 17 operators in the Southwest Field mining about 23,000,000 tons annually and 33 operators in the Central Field mining about 9,000,000 tons annually are shown below for six significant periods between January 1, 1916, and December 31, 1918. The significance of the periods selected is as follows:

Year 1916.—This period reflects the situation for the calendar year prior to the entrance of the United States into the war.

January–March, 1917.—During this period the 1916 wage scale was still in operation, and much coal was being sold on contracts based on that wage scale. Most of these contracts expired on March 31. The imminence of war affected prices much more than costs.

April–August, 1917.—War was begun and during this period the higher 1917 wage scale was in operation. The contracts entered into were generally at much higher prices than previous contracts, while the spot market advanced very sharply.

September–October, 1917.—This period directly follows the fixing, by Executive order of August 21, 1917, of maximum prices for bituminous coal not sold under contracts made prior to that date, and the establishment of a Fuel Administration to regulate the fuel situation. The 1917 wage scale continued in operation these two months.

November, 1917–March, 1918.—This period directly follows the increase in the maximum prices allowed by Executive order in consequence of the adoption of a new wage scale (1917–18) which was higher than that adopted earlier in 1917. Many of the contracts made prior to August 21, 1917, continued through this period.

April–December, 1918.—During this period practically the entire output of coal, whether sold under contract or not, was subject to the governmental maximum prices. The 1917–18 wage scale was in operation throughout the period.

Period.	Southwest Field.						Central Field.					
	Costs.				Sales realization.	Margin.	Costs.				Sales realization.	Margin.
	Labor.	Supplies.	General expense.	Total f. o. b. mine.			Labor.	Supplies.	General expense.	Total f. o. b. mine.		
Year 1916.....	\$0.82	\$0.12	\$0.25	\$1.19	\$1.36	\$0.17	\$0.92	\$0.10	\$0.30	\$1.32	\$1.40	\$0.08
Jan.-Mar. 1917..	.88	.17	.30	1.35	1.99	.64	1.12	.15	.35	1.62	2.26	.64
Apr.-Aug. 1917..	1.02	.19	.28	1.49	2.89	1.40	1.30	.26	.36	1.92	3.02	1.10
Sept.-Oct. 1917..	1.06	.21	.28	1.55	2.79	1.24	1.38	.27	.38	2.03	3.01	.98
Nov.'17-Mar.'18..	1.38	.26	.30	1.94	2.76	.82	1.70	.27	.37	2.34	3.27	.93
Apr.-Dec. 1918..	1.35	.27	.26	1.88	2.43	.55	1.73	.31	.34	2.38	3.11	.73

NOTE.—All units are shown per ton of 2,000 pounds.

Under governmental regulation, in the face of steadily rising costs in each field, the sales realizations either decreased or showed only a slight increase over that during the period immediately preceding such regulation.

The output of coal was increased under governmental regulation, and the cause of the decreased coal production during the winter of 1917-18 is in no way attributable to prices fixed by governmental authority in the Pennsylvania fields. In 1916, 170,295,424 net tons were produced in the two fields, in 1917 their output was 172,448,142 tons, and in 1918 it was 183,712,000 tons, an increase of 6½ per cent over 1917. For the 33 operators in the Central Field and the 17 operators in the Southwest Field from whom data were secured for 1916, 1917, and 1918, it appears that during the seven months of April to October, 1917 (the time of highest margins), their production was 19,673,149 tons, which is somewhat less coal than their output during the period April to October, 1918 (20,214,109 tons), when costs were much higher and margins were substantially lower. The falling off of output is not to be attributed to a shortage at that time in mining labor. It was not possible to keep the force then actually employed at work on full time. The decrease in production in the two Pennsylvania fields during the winter months was directly caused by transportation which at times was acutely affected by weather conditions. As was pointed out by this Commission in its report to Congress on May 19, 1917, the controlling factor in the bituminous coal situation has been transportation facilities.

Of the various changes in the distribution of the amount paid for coal by the purchaser, based on each dollar of sales realizations during the period of 1917-18, the item of most general interest is the proportion which labor received. For these Pennsylvania fields it was highest (60 cents out of the dollar in the Southwest Field and 60 cents in the Central Field) in 1916, and lowest (35 cents out of the dollar in the Southwest Field and 43 cents in the Central Field) during the period April-August, 1917, which followed the expiration of the 1916 contracts, and preceded the establishing of governmental regulation.

For the last nine months of 1918 (April–December) when practically the entire output of the mine was subject to the price regulation of the Fuel Administration, the share of labor in these two fields was 56 cents out of every dollar paid by the purchaser.

In these Pennsylvania fields and for the country in general what governmental regulation of bituminous coal prices really did was, first, to check abnormal rise in prices, due to frantic bidding by the consumers for an insufficient supply, and, second, to establish prices and maintain conditions which (after practically the entire output had come under regulation) allowed the operator margins materially lower than those prevailing for the preceding 12 months, though high enough to stimulate the increase in output which was vitally necessary to the successful prosecution of the war.

Caution should be used in drawing deductions for the industry as a whole based on the 1918 costs, sales realizations, and margins, shown for the two Pennsylvania fields in this report. Conditions in the different fields in the country varied widely in 1918. As will be shown in the subsequent reports to be issued by the Commission, 8 of the 24 bituminous coal-producing States covered in its cost work, had lower average costs in 1918 than Pennsylvania, and 15 had higher. Thirteen States had lower sales realizations and 10 had higher. In respect to margins, all but two States (which had a combined output of about 7,000,000 tons in 1918) had lower average margins in 1918 than Pennsylvania.

Finally, it is the opinion of the Commission that the coal situation is so important and the knowledge of costs so essential to intelligent policy that some governmental body should regularly obtain and promptly compile current costs and average prices, which would be available, not only for the use of the Government, but also to all other interests involved—the operator, the miner, and the consumer. As already pointed out, no data covering costs and sales realizations subsequent to December, 1918, have been collected by the Commission, though it has previously recommended through the regular channels that provision be made for such work. The monthly output of coal since that time has fallen off to a marked degree, while the costs apparently have not decreased. In view of these conditions it is not improbable that there will be a repetition of the difficulties of the winter of 1917–18, unless they can be forestalled by some prompt remedial action of the Government, or of the industry and coal consumers themselves. In either case it is highly desirable that definite up-to-date information be collected and made readily available for use.

Respectfully,

JOHN FRANKLIN FORT, *Chairman.*

VICTOR MURDOCK.

HUSTON THOMPSON.

WILLIAM B. COLVER.

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Part I.—INTRODUCTION.

The present report on the cost of producing bituminous coal in Pennsylvania during the war is the first of a series which the Federal Trade Commission contemplates issuing for the principal coal producing States in the United States. Subsequent reports for other States will probably be issued until the cost of producing practically the entire output of the bituminous and anthracite coal in the United States has been covered.

In this first report, it is desirable to describe in some detail the nature and extent of the Commission's work on the cost of producing coal.

I. Nature and Extent of Federal Trade Commission's Cost Work.

During the latter part of 1916, and until the creation of the United States Fuel Administration in August, 1917, the Commission, pursuant to directions from Congress, was engaged in the investigations of various phases of the anthracite and bituminous coal industry. A formal report on the subject, covering the results obtained from its investigation up to that time, was issued June 20, 1917. Most of this report dealt with anthracite, the work on bituminous coal having not then reached the stage where it was possible to make a detailed report. A preliminary report as to bituminous coal was made to the House of Representatives on May 19, 1917, and appears as Exhibit XVIII in the report issued on June 20, 1917.

For some months prior to the passage of the Lever Act, on August 10, 1917, which authorized the fixing of coal prices, accountants of the Commission had been engaged in examining the books of various coal producing operators, to ascertain their costs of production. At the request of the Governor of Indiana, and of the Ohio State Council of Defense, special investigations into the cost of producing coal were made in those States. Data of a similar nature relating to coal suitable for the United States Navy were ascertained and submitted to the Secretary of the Navy at his request. These various cost-findings were consolidated and extended to cover many of the principal producers in Illinois, West Virginia, Pennsylvania, Kentucky, Montana and Michigan.

In accordance with the direction of the President, the ascertainment of the cost of production of coal was continued after the

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The costs and sales realizations are shown below for each quarter of 1918 and the year as a whole for 199 operators in the Southwest Field and 425 operators in the Central Field. All operations fully reported produced about 88 per cent of the combined output for the two fields in 1918.

Period.	Southwest Field.						Central Field.					
	Labor.	Sup- plies.	Gen- eral ex- penses.	Total f. o. b. mine.	Sales reali- zation.	Mar- gin.	Labor.	Sup- plies.	Gen- eral ex- penses.	Total f. o. b. mine.	Sales reali- zation.	Mar- gin.
1918.												
January-March.	\$1.36	\$0.27	\$0.32	\$1.95	\$2.72	\$0.77	\$1.58	\$0.23	\$0.30	\$2.11	\$3.04	\$0.93
April-June.....	1.28	.26	.29	1.83	2.49	.66	1.57	.25	.30	2.12	3.11	.99
July-September.	1.31	.28	.28	1.87	2.43	.56	1.61	.28	.30	2.19	3.02	.83
October-December.....	1.38	.36	.32	2.06	2.40	.34	1.71	.35	.37	2.43	3.03	.60
Year.....	1.33	.29	.30	1.92	2.50	.58	1.62	.27	.32	2.21	3.05	.84
Production for year.....	87,963,186 tons.						63,962,057 tons.					

NOTE.—All units are shown per ton of 2,000 pounds.

greatly from operator to operator and from field to field. One operator may have a heavy investment in mining machinery, and thus show a relatively low labor cost, while another operator may have a small investment, but a high labor cost. In the case of the first operator the margin obtained should be larger in order to give an equal rate of remuneration on the larger amount of invested capital.

The United States Geological Survey has collected information on the "average value per ton" for a long series of years. This average is obtained by dividing the total selling value by the total tonnage.¹

The following table for bituminous coal produced in Pennsylvania has been compiled from statistics published by the Geological Survey. Since those statistics are shown by counties and the State as a whole, the Southwest Field of Pennsylvania has been considered by the Commission, in compiling the table, to include the counties of Allegheny, Fayette, Greene, Washington, and Westmoreland, and the Central Field to include the remaining bituminous coal-producing counties in the State.

TABLE 1.—*Production and average value, 1911–1916, Southwest and Central Fields, and State.*

Year.	Southwest Field.		Central Field.		State.	
	Production.	Average value per ton.	Production.	Average value per ton.	Production.	Average value per ton.
	<i>Tons.</i>		<i>Tons.</i>		<i>Tons.</i>	
1911.....	83,951,667	\$1.01	60,609,590	\$1.01	144,561,257	\$1.01
1912.....	98,504,347	1.04	63,361,141	1.07	161,865,488	1.05
1913.....	104,610,557	1.13	69,170,660	1.08	173,781,217	1.11
1914.....	84,925,980	1.06	63,057,314	1.08	147,983,294	1.07
1915.....	92,179,170	1.03	65,775,967	1.10	157,955,137	1.06
1916.....	100,621,195	1.28	69,674,229	1.33	170,295,424	1.30

In its report for 1916 the Geological Survey published "average values" in more detail than in previous reports. The following table is compiled from statistics appearing on pp. 975–976 of the 1916 report.

¹ "The operators are requested in the schedules of inquiry sent out by the Geological Survey to give the total selling value at the mine for their entire output, including the fuel used at the mines for steam and heat and excluding only the slack wasted. The coal used at the mine, that coked by the producing company, and that used in some other industry by the company operating the mine, an appreciable proportion of the whole, is never sold, and the value placed upon it is either an estimate or the figure at which it is carried on the books, either of which is supposedly based upon what the product would have brought if sold or what fuel for the respective purpose would have cost if its purchase had been necessary. In other words, the values given represent returns to the operators for coal sold, plus estimated exchange value of that not sold."—U. S. Geological Survey. (Mineral Resources of the United States, 1915—Part II, p. 375.)

TABLE 2.—*Production and average value, 1916, Southwest and Central Fields, and State.*

Disposition of production.	Southwest Field.		Central Field.		State.	
	Production.	Average value per ton.	Production.	Average value per ton.	Production.	Average value per ton.
	<i>Tons.</i>		<i>Tons.</i>		<i>Tons.</i>	
Loaded at mines for shipment.....	60,321,088	\$1.33	62,860,561	\$1.34	123,181,649	\$1.33
Sold to local trade and used by employees.....	1,809,567	1.36	2,402,619	1.41	4,212,186	1.39
Used at mines for steam and heat...	1,985,034	1.15	1,390,449	1.17	3,375,493	1.16
Made into coke at mines.....	36,505,506	1.22	3,020,600	1.34	39,526,106	1.23
Total.....	100,621,195	1.28	69,674,229	1.33	170,295,424	1.30

Geological Survey figures, by counties, for subsequent years have not yet been published. The output for the State has been reported as 172,448,142 tons in 1917 and 183,712,000 tons in 1918.

IV. Differences in Cost Between Mines.

One of the most striking facts brought out in the statistics presented by the Commission is the great differences in costs between operators mining coal in the same field. There are many causes for these differences. The principal causes may be briefly stated as follows:

1. If mines are not under same management part of the difference may be due to respective efficiency of the managements.

2. Physical conditions affecting cost may be widely different in respect to—

- (a) Thickness of seam.
- (b) Pitch of seam.
- (c) Purity of coal in seam; freedom from foreign bodies, such as sulphur balls, flinty nodules, etc.
- (d) Faults and irregularities of seam.
- (e) Character of top and bottom as determining amount of timbering.
- (f) Character of operation, whether shaft or drift, and distance of productive coal seam from surface.
- (g) Drainage necessary for mine.
- (h) Ventilation necessary for mine.
- (i) Age of mine and character of mining, whether advancing rooms or robbing pillars.

3. Lost time due to—

- (a) Car shortage.
- (b) Accidents to mine.
- (c) Lack of sufficient labor.

4. Variations in payments for royalties and in the amounts of depletion, depreciation charges, and officers' salaries.

5. Differences in the use of labor-saving machinery (such as mining machines, electrical haulage, etc.).

Of the foregoing causes of differences in cost of production, probably the most important one is the thickness of seam mined. As a general rule, it may be stated that until a certain width is reached the cost of mining decreases as the thickness of the seam increases. After it reaches a certain point (which will vary from field to field), the costs are likely to increase, due to the larger amount of timbering required.

It may be pointed out that while as a general rule labor costs and total f. o. b. mine costs in any given field will decrease as the seam widens, this will not be found to apply in every case. It is believed, however, that such variations are due largely to exceptional conditions which obscure the effect of the general factor of thickness of seam.

The importance of the factor of thickness of seam is always recognized in the mining rates paid by the operator. It has also a most important bearing on the differences in the increase of labor cost per ton between the different mines, which results from the application of a uniform advance in the wage scale to the different conditions at the various mines. Thus the uniform increase in the wage scale which took place at most of the mines in the country in November, 1917, resulted in an increase of labor cost per ton, varying from less than 25 cents per ton at some mines to over 70 cents per ton at others. These facts were clearly brought out through a comparison of the monthly cost reports for August, September, and October, 1917, the three months prior to the wage increase, with those for November and December, 1917, the two months subsequent to the increase.

The Commission has collected much definite and detailed information bearing on the connection between advances in the general wage scale and the changes in labor cost of the different classes of operations. It hopes to be able to make this public at some future date. At the present time, however, merely the general facts can be shown.

Part II. THE SOUTHWEST FIELD OF PENNSYLVANIA.

I. Introduction.

1. *Definition of Southwest Field.*—The name of Southwest Field is used throughout this Report for the area which the Fuel Administration has described as follows: The counties of Allegheny, Westmoreland, Fayette, Greene, and Washington, in the State of Pennsylvania, except (1) that portion of Allegheny County from the lower end of Tarentum Borough north to the county line; (2) the territory in Westmoreland County from a point opposite the lower end of Tarentum Borough, north along the Allegheny River to the Kiskiminitas River, along the Kiskiminitas River eastward to the Conemaugh River, and continuing along the Conemaugh River to the county line of Cambria County; (3) operations on Indian Creek in Westmoreland County; and (4) operations in the Ohio Pyle district of Fayette County.

2. *Size.*—There are no records available which give exactly the production, for a series of years, of the field covered by the foregoing definition. It approximately includes, however, the mines located in the five counties of Allegheny, Fayette, Greene, Washington, and Westmoreland. The following statement, compiled from statistics shown in the United States Geological Survey's reports shows the percentages which the output of these five counties has formed of the total output of bituminous coal in the United States, and in Pennsylvania, during 1911–1916.

Year.	Production tonnage.	Proportion of total production of—	
		United States.	Pennsyl- vania.
		<i>Per cent.</i>	<i>Per cent.</i>
1911.....	83,951,667	21	58
1912.....	98,504,347	22	61
1913.....	104,610,557	22	60
1914.....	84,925,980	20	57
1915.....	92,179,170	21	58
1916.....	100,621,195	20	59

The Southwest Field has the largest production of any one field in the United States, producing about one-fifth of the total output of bituminous coal in the country.

II. 1918 Costs and Sales Realization.

1. *Number and extent of operations covered.*—The 1918 production of the 278 operators in this field from whom cost reports were obtained by the Commission was as follows:

	Tons.	Percent.
199 operators from whom costs were obtained for 12 months.....	89,979,362	95.3
13 operators from whom costs were obtained for 12 months but which were excluded for various reasons.....	608,517	0.6
66 operators from whom costs were obtained for less than the full 12 months (actual tonnage reported 2,435,343) estimated yearly tonnage.....	3,910,176	4.1
	94,498,055	100.0

The above figures are shown, inclusive of power-house fuel, for comparison with the United States Geological Survey statistics.

2. *Classification of producers by number of mines operated.*—The costs of the 199 operators shown in the tabulation for the Southwest Field cover the output from 462 mines. The following table shows the number of mines operated by the different producers.

TABLE 3.—*Number of mines operated by different producers.*

Number of mines run by each operator.	Number of operators.	Proportion of total number.	Production tonnage, 1918.	Proportion of total production.
		<i>Per cent.</i>	<i>Tons.</i>	<i>Per cent.</i>
1 mine.....	138	69.4	15,278,710	17.37
2 mines.....	29	14.6	8,969,020	10.08
3 mines.....	11	5.5	4,417,653	5.02
4 mines.....	8	4.0	6,509,606	7.40
5 mines.....	4	2.0	8,691,646	9.89
6 mines.....	3	1.5	4,075,038	4.63
7 mines.....				
8 mines.....	1	.5	1,665,231	1.89
9 mines.....	1	.5	2,905,150	3.30
10 mines.....	1	.5	2,095,117	2.38
Over 10 mines.....	3	1.5	33,456,015	38.04
Total.....	199	100.0	87,963,186	100.00

It should be noted that 138 producers (about 70 per cent of the number tabulated) operated only 1 mine, and produced about 17 per cent of the output, and that 167 producers (forming 84 per cent of the total number) operated from 1 to 2 mines and produced only about 28 per cent of the output. On the other hand, 3 producers (about 1½ per cent of the number tabulated) operated a total of 136 mines and produced 38 per cent of the output. The average number of mines operated by a producer was, for the 199 producers, 2½ mines. If the 3 producers who operated over 10 mines each be excluded, the average number of mines operated by 196 producers was 1½ mines per producer. The average annual production per mine operated was about 190,400 tons for the field, 110,716 tons for the 138 one-mine operators, and 224,335 tons for the 61 operators with 2 or more mines.

3. *Classification of producers by size of output.*—The 199 producers tabulated are classified by size of their output in 1918, exclusive of power-house fuel, as follows:

TABLE 4.—*Classification of operators by size of output.*

Production during 1918.	Number of operators.	Proportion of total number.	Tonnage produced, 1918.	Proportion of total production.
		<i>Per cent.</i>	<i>Tons.</i>	<i>Per cent.</i>
Under 50,000 tons.....	69	35	2,135,077	3
50,000 to 99,999 tons.....	31	16	2,238,118	3
100,000 to 499,999 tons.....	67	34	15,078,588	17
500,000 to 999,999 tons.....	15	7	10,047,726	11
1,000,000 tons and over.....	17	8	58,463,677	66
Total.....	199	100	87,963,186	100

It should be noted that in the Southwest Field a relatively few large operators produced in 1918 the bulk of the tonnage. Of the total output 66 per cent was produced by 17 operators who produced 1,000,000 tons or over, and 77 per cent of the total output by 32 operators (forming 15 per cent of the total number) who produced 500,000 tons or over, while 94 per cent of the total output was produced by 99 operators (forming 49 per cent of the total) who mined 100,000 tons or over. The remaining 6 per cent of the output was produced by 100 operators who formed 51 per cent of the total number.

An examination of the reports of the 66 operators in the field from whom cost reports were received for a period of less than 12 months during 1918 shows that almost all of them would fall in the class of producers of less than 50,000 tons.

Of the 2,435,343 tons actually reported by these 66 operators 1,087,587 tons were mined by 4 operators, whose estimated yearly production is 1,757,044. The remaining 62 operators had an estimated yearly production of 2,153,132, or an average estimated annual production of about 34,700 tons per operator. Had reports for the whole 12 months' period been available from them, it would be found that about 60 per cent of the operators in the field produced about 6 per cent of the total output.

4. *The 1918 costs and sales realizations shown for the field.*—There was no change in the official wage scale for bituminous-coal miners during 1918. Therefore, the labor costs per ton for the period were principally affected by changes in the production tonnage and not by changes in the rate of wages paid labor. There was a marked decrease in sales realization per ton which took place on March 31, 1918, the date of the expiration of most of the high-priced contracts entered into before governmental price fixing took place under the Lever Act. The effect of decreased production in increasing labor costs in January, February, November, and December, 1918, and the effect of the

expiration of contracts March 31, 1918, in decreasing the sales realization can be clearly seen on diagram No. 1. It will be noted that the labor cost curves for the first and last quarters of 1918 are somewhat higher than those for the second and third quarters; also that the sales realization curve for the first quarter of 1918 is much above those for the remaining quarters.

The following tables, Nos. 5 to 9, show the costs and the sales realizations arranged from low to high in 1-cent groupings for each period shown. Throughout the tables the costs are shown for the same 199 operators, but the costs of any given operator do not necessarily hold the same relative position in the 1-cent groups at each period. The shift of any operator in his relative position, from period to period, is generally slight.

The tables show, for each quarter and for the year as a whole, by 1-cent groupings, the tonnage produced at that cost, its per cent of the total production, the place of the group in the accumulated percentage, and the number of companies whose costs fell within each 1-cent group.

TABLE 5.—Total "Revised" labor cost, by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.	
\$0.56	15,658	0.08	0.08	1	1	\$0.55	17,478	0.07	0.07	1	1	\$0.71	31,461	0.13	0.13	1	1	\$0.71	25,817	0.13	0.13	1	1	\$0.69	65,398	0.08	0.08	1	1
.77	11,674	.08	.14	2	2	.70	38,969	.17	.24	2	2	.72	24,804	.10	.23	1	1	.73	80,548	.09	.32	1	1	.73	80,548	.09	.17	1	1
.83	80,362	.42	.56	3	3	.74	27,137	.12	.36	1	1	.74	20,835	.08	.31	1	1	.74	68,308	.08	.40	1	1	.74	68,308	.08	.25	1	1
.84	16,881	.09	.65	1	1	.75	19,251	.08	.44	1	1	.80	84,471	.34	.65	1	1	.80	106,555	.12	.57	1	1	.76	106,555	.12	.37	1	1
.89	8,416	.04	.69	1	1	.80	81,505	.34	.78	1	1	.81	16,944	.07	.72	1	1	.83	279,455	.32	.89	1	1	.83	279,455	.32	.69	1	1
.91	16,155	.08	.77	2	2	.84	124,622	.53	1.31	2	2	.88	81,138	.33	1.05	1	1	.88	23,724	.02	.71	1	1	.86	23,724	.02	.71	1	1
.94	6,714	.04	.81	1	1	.87	9,239	.04	1.35	1	1	.89	25,833	.11	1.16	2	2	.89	280,036	.32	1.03	1	1	.89	280,036	.32	1.03	1	1
.95	48,597	.26	1.07	1	1	.89	26,513	.12	1.47	1	1	.90	48,704	.19	1.35	1	1	.92	67,570	.08	1.11	1	1	.92	67,570	.08	1.11	1	1
.96	35,779	.19	1.26	1	1	.90	82,154	.34	1.81	2	2	.94	16,837	.07	1.42	1	1	.94	158,457	.19	1.30	1	1	.94	158,457	.19	1.30	1	1
.97	49,509	.26	1.52	3	3	.92	7,843	.03	1.84	1	1	.95	24,464	.10	1.52	1	1	.95	98,050	.11	1.41	1	1	.95	98,050	.11	1.41	1	1
.98	25,659	.13	1.65	1	1	.94	8,769	.04	1.88	1	1	.97	45,992	.19	1.71	1	1	.99	161,002	.18	1.59	1	1	.99	161,002	.18	1.59	1	1
.99	41,019	.22	1.87	1	1	.95	26,798	.11	1.99	1	1	.98	160,294	.66	2.37	2	2	1.01	50,728	.06	1.65	1	1	1.01	50,728	.06	1.65	1	1
1.00	8,622	.05	1.92	1	1	.98	12,721	.06	2.05	2	2	.99	29,462	.12	2.49	1	1	1.02	554,732	.62	2.27	2	2	1.02	554,732	.62	2.27	2	2
1.01	14,766	.08	2.00	1	1	.99	8,938	.04	2.09	1	1	1.00	53,703	.22	2.71	2	2	1.03	218,904	.24	2.51	2	2	1.03	218,904	.24	2.51	2	2
1.03	44,742	.24	2.24	2	2	1.00	36,353	.15	2.24	1	1	1.01	58,143	.24	2.95	1	1	1.06	258,261	.29	2.80	2	2	1.04	258,261	.29	2.80	2	2
1.04	39,071	.21	2.45	2	2	1.01	164,912	.71	2.95	3	3	1.02	28,171	.12	3.07	2	2	1.07	231,512	.26	3.06	3	3	1.06	231,512	.26	3.06	3	3
1.05	20,193	.10	2.55	2	2	1.02	86,789	.38	3.33	3	3	1.03	44,627	.19	3.20	1	1	1.07	552,895	.63	3.69	2	2	1.07	552,895	.63	3.69	2	2
1.06	317,821	.68	3.23	1	1	1.03	313,569	.132	4.65	5	5	1.04	9,266	.04	3.30	1	1	1.08	122,951	.12	3.81	3	3	1.08	122,951	.12	3.81	3	3
1.07	294,639	.65	3.29	2	2	1.04	72,865	.31	4.96	3	3	1.05	47,007	.19	3.49	3	3	1.09	130,498	.14	3.90	4	4	1.09	130,498	.14	3.90	4	4
1.08	59,145	.32	3.61	3	3	1.05	21,844	.10	3.06	2	2	1.06	25,687	.13	3.59	2	2	1.10	1,213,980	1.38	5.33	2	2	1.10	1,213,980	1.38	5.33	2	2
1.09	103,864	.56	6.17	2	2	1.09	63,493	.27	5.33	3	3	1.07	56,578	.24	3.83	2	2	1.15	176,480	.20	5.53	1	1	1.11	176,480	.20	5.53	1	1
1.10	26,480	.13	6.30	3	3	1.10	121,544	.32	5.73	3	3	1.08	15,471	.08	3.89	1	1	1.12	316,166	.30	6.23	1	1	1.12	316,166	.30	6.23	1	1
1.11	28,240	.14	6.44	3	3	1.11	44,241	.18	6.53	2	2	1.09	63,329	.22	4.00	1	1	1.13	234,559	.29	6.54	2	2	1.13	234,559	.29	6.54	2	2
1.12	28,240	.14	6.58	1	1	1.12	292,933	.83	8.58	1	1	1.10	45,468	.15	6.07	1	1	1.18	385,557	.44	6.75	3	3	1.13	385,557	.44	6.75	3	3
1.14	679,916	3.60	10.26	1	1	1.13	887,031	3.74	12.32	5	5	1.11	195,894	.79	6.76	4	4	1.19	155,317	.75	7.51	4	4	1.13	385,557	.44	6.75	3	3

TABLE 5.—Total "Revised" labor cost, by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.							April-June, 1918, inclusive.							July-September, 1918, inclusive.							October-December, 1918, inclusive.							Year, 1918.						
Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.	Per-ton cost by group.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group.
\$1.15	319,368	1.68	11.94	6	\$1.14	9,325	0.04	12.36	1	\$1.12	23,760	0.09	6.85	3	\$1.20	114,758	0.55	7.30	4	\$1.16	2,908,463	3.32	10.30	4	\$1.17	2,983,301	3.32	10.30	4	\$1.16	2,908,463	3.32	10.30	4
1.16	46,718	.46	12.40	2	1.15	50,376	.20	12.56	3	1.15	56,352	.26	7.08	3	1.21	63,569	.26	7.56	2	1.17	283,301	.32	10.62	3	1.17	283,301	.32	10.62	3	1.17	283,301	.32	10.62	3
1.17	44,958	.23	12.63	2	1.16	564,739	2.38	14.94	5	1.14	77,517	.32	7.40	3	1.22	77,647	.36	7.92	3	1.18	325,015	.37	10.99	2	1.18	325,015	.37	10.99	2	1.18	325,015	.37	10.99	2
1.18	27,665	.15	12.78	2	1.17	39,142	.17	15.11	3	1.15	122,318	.49	7.80	2	1.23	870,171	4.23	12.15	8	1.19	139,887	.17	11.16	1	1.19	139,887	.17	11.16	1	1.19	139,887	.17	11.16	1
1.19	62,719	.33	13.11	1	1.18	90,622	.38	15.49	3	1.16	355,071	1.46	9.35	5	1.24	6,840	.03	12.18	1	1.20	1,608,061	1.83	12.99	7	1.20	1,608,061	1.83	12.99	7	1.20	1,608,061	1.83	12.99	7
1.20	14,685	.08	13.19	1	1.19	878,462	3.70	19.19	5	1.17	851,656	3.48	12.83	2	1.25	17,639	.09	12.27	2	1.21	821,488	.95	13.94	3	1.21	821,488	.95	13.94	3	1.21	821,488	.95	13.94	3
1.21	210,062	1.11	14.30	5	1.20	4,424,610	18.69	37.88	2	1.18	13,436	.06	12.89	2	1.26	201,875	.96	13.23	4	1.22	128,283	1.16	14.10	3	1.22	128,283	1.16	14.10	3	1.22	128,283	1.16	14.10	3
1.22	342,856	1.80	16.10	4	1.21	530,788	6.47	44.35	4	1.19	7,145	.03	12.92	1	1.27	1,061,832	5.24	18.47	3	1.23	1,333,994	1.31	15.41	4	1.23	1,333,994	1.31	15.41	4	1.23	1,333,994	1.31	15.41	4
1.23	7,567	.04	16.14	1	1.22	573,802	2.43	46.78	4	1.21	209,983	.85	13.77	4	1.28	139,724	.67	19.14	3	1.24	204,542	1.22	15.63	2	1.24	204,542	1.22	15.63	2	1.24	204,542	1.22	15.63	2
1.25	63,267	.33	16.47	2	1.23	56,334	.24	47.02	2	1.22	2,003,871	8.18	21.95	5	1.29	1,031,052	5.03	24.17	6	1.25	1,569,114	1.80	17.43	3	1.25	1,569,114	1.80	17.43	3	1.25	1,569,114	1.80	17.43	3
1.26	103,831	.56	17.03	4	1.24	969,780	4.19	51.21	5	1.23	101,171	.41	22.36	4	1.31	207,553	.99	25.16	2	1.26	5,219,177	5.93	23.36	3	1.26	5,219,177	5.93	23.36	3	1.26	5,219,177	5.93	23.36	3
1.27	284,632	1.50	18.53	5	1.25	43,187	.18	51.39	3	1.24	2,644,230	21.48	43.84	4	1.32	119,927	.57	25.73	2	1.27	19,500,128	22.20	45.56	4	1.27	19,500,128	22.20	45.56	4	1.27	19,500,128	22.20	45.56	4
1.28	184,618	.98	19.51	4	1.26	287,367	1.21	52.60	5	1.25	417,427	1.70	45.54	3	1.33	4,676,274	22.43	48.16	6	1.28	339,230	.38	45.94	1	1.28	339,230	.38	45.94	1	1.28	339,230	.38	45.94	1
1.29	119,554	.63	20.14	1	1.27	195,821	.83	53.43	2	1.26	239,393	.97	46.51	5	1.34	481,573	2.31	50.47	6	1.29	911,823	1.04	46.98	5	1.29	911,823	1.04	46.98	5	1.29	911,823	1.04	46.98	5
1.30	3,498,763	18.48	38.62	3	1.28	564,144	2.39	55.82	1	1.27	441,752	1.80	48.31	3	1.35	319,025	1.55	52.02	7	1.30	1,224,321	1.39	48.37	4	1.30	1,224,321	1.39	48.37	4	1.30	1,224,321	1.39	48.37	4
1.31	239,545	1.27	39.89	4	1.29	243,743	1.02	56.84	3	1.28	98,661	.42	48.73	2	1.36	150,705	.72	52.74	4	1.31	2,452,008	2.78	51.15	8	1.31	2,452,008	2.78	51.15	8	1.31	2,452,008	2.78	51.15	8
1.32	945,457	5.04	44.92	4	1.30	316,791	1.34	58.18	2	1.29	714,779	2.91	51.69	5	1.37	392,317	1.72	54.61	4	1.32	1,550,298	4.73	55.88	6	1.32	1,550,298	4.73	55.88	6	1.32	1,550,298	4.73	55.88	6
1.33	911,070	5.23	48.70	6	1.31	435,269	1.80	60.11	2	1.30	308,059	1.25	54.14	5	1.38	937,261	4.56	61.12	4	1.33	1,724,543	1.56	57.84	5	1.33	1,724,543	1.56	57.84	5	1.33	1,724,543	1.56	57.84	5
1.34	69,730	.37	52.37	1	1.32	487,718	1.96	62.07	4	1.32	673,796	2.75	56.80	3	1.39	937,261	4.56	61.12	4	1.34	726,977	.82	58.66	3	1.34	726,977	.82	58.66	3	1.34	726,977	.82	58.66	3
1.35	618,964	3.27	55.64	6	1.34	131,081	.55	62.62	4	1.32	644,611	2.64	59.53	5	1.40	212,330	1.01	62.12	3	1.35	2,173,787	2.48	61.14	5	1.35	2,173,787	2.48	61.14	5	1.35	2,173,787	2.48	61.14	5
1.37	69,670	.37	56.93	1	1.35	4,334,870	18.31	69.01	4	1.34	562,431	2.20	61.83	5	1.42	14,229	.06	63.25	5	1.36	1,731,474	1.98	63.12	5	1.36	1,731,474	1.98	63.12	5	1.36	1,731,474	1.98	63.12	5
1.38	102,737	.86	56.87	3	1.36	1,078,106	4.55	85.48	8	1.35	626,769	2.56	64.39	3	1.43	3,301,669	15.84	73.15	5	1.37	798,484	.90	64.02	3	1.37	798,484	.90	64.02	3	1.37	798,484	.90	64.02	3
1.39	303,750	1.60	58.47	4	1.37	20,532	.09	85.57	1	1.36	1,291,910	16.84	81.23	6	1.44	6,568	.03	79.18	1	1.38	1,343,554	1.54	65.56	1	1.38	1,343,554	1.54	65.56	1	1.38	1,343,554	1.54	65.56	1
1.41	314,102	1.67	60.14	3	1.38	25,757	.11	85.68	2	1.37	447,337	1.31	81.68	3	1.45	28,198	.13	79.31	1	1.39	14,396,390	16.27	81.83	3	1.39	14,396,390	16.27	81.83	3	1.39	14,396,390	16.27	81.83	3
1.42	3,878,429	20.48	80.62	6	1.39	20,601	.09	85.77	1	1.38	1,151,159	4.87	86.55	4	1.46	349,030	1.67	80.98	3	1.41	3,924,947	4.47	86.58	6	1.41	3,924,947	4.47	86.58	6	1.41	3,924,947	4.47	86.58	6
1.44	206,752	1.08	81.70	2	1.40	641,610	2.72	88.19	4	1.39	70,544	.32	86.83	3	1.47	238,489	1.15	82.13	2	1.42	271,965	.41	86.89	3	1.42	271,965	.41	86.89	3	1.42	271,965	.41	86.89	3
1.45	899,051	4.76	86.46	7	1.41	36,541	.12	88.64	2	1.40	75,105	.32	87.15	3	1.48	23,043	.11	82.24	2	1.43	164,831	.19	87.08	1	1.43	164,831	.19	87.08	1	1.43	164,831	.19	87.08	1
1.46	24,224	.12	86.58	1	1.42	192,817	.81	89.45	6	1.41	72,784	.29	87.44	3	1.49	72,499	.55	82.56	2	1.44	106,587	.12	87.20	1	1.44	106,587	.12	87.20	1	1.44	106,587	.12	87.20	1
1.47	238,146	1.22	87.80	2	1.43	36,395	.15	89.60	2	1.42	20,656	.69	87.53	2	1.50	609,861	3.21	85.80	2	1.45	63,396	.07	87.27	2	1.45	63,396	.07	87.27	2	1.45	63,396	.07	87.27	2

1.45	8,923	04	87.84	1.44	39,823	18	89.78	1.43	140,896	58	88.11	1.51	152,436	73	86.53	31	1.46	575,123	67	87.94	4	
1.49	596,161	3.15	91.99	1.45	500,516	2.17	91.95	1.44	64,931	23	89.34	1.52	6,174	03	87.07	1	1.47	385,958	42	86.96	4	
1.50	135,021	3.71	91.90	1.46	6,571	0.71	91.94	1.45	163,068	27	88.24	1.53	105,165	08	86.50	2	1.48	619,874	70	86.96	3	
1.51	8,331	0.41	91.74	1.47	128,654	54	92.52	1.46	70,633	25	88.30	1.54	390,013	18	86.54	3	1.49	658,254	75	86.81	5	
1.52	9,927	0.05	91.79	1.48	143,709	60	93.12	1.49	579,240	23	91.67	1.55	231,172	11	90.05	4	1.50	2,724,206	3.10	92.91	2	
1.53	48,391	25	92.04	1.50	6,476	03	93.15	1.51	40,978	16	91.83	1.57	38,850	19	90.24	1	1.51	97,431	11	93.02	2	
1.55	80,732	22	92.26	1.52	84,073	36	93.17	1.53	330,970	134	93.17	1.58	414,122	18	92.23	1	1.52	40,257	01	93.06	2	
1.56	40,539	48	92.69	1.54	48,913	21	93.72	1.55	26,515	10	93.27	1.59	1,687	01	92.28	1	1.53	372,197	44	93.50	2	
1.57	42,631	22	93.01	1.55	9,256	04	93.31	1.56	9,256	04	93.31	1.60	8,999	08	92.31	1	1.54	623,418	71	94.21	3	
1.59	34,788	20	93.11	1.56	38,080	16	94.12	1.57	39,072	16	93.47	1.61	11,763	05	92.32	1	1.55	1,619,720	1.84	96.05	3	
1.60	74,261	39	93.50	1.57	85,355	36	94.48	1.58	351,506	143	94.90	1.62	81,914	39	92.71	2	1.56	68,490	08	96.13	2	
1.61	9,432	03	93.55	1.58	18,478	08	94.53	1.59	11,469	04	94.94	1.63	13,726	53	92.80	1	1.57	340,405	38	96.51	2	
1.63	42,436	22	93.77	1.59	84,332	34	95.28	1.60	41,332	34	95.28	1.64	104,999	51	93.31	3	1.58	122,220	14	96.55	2	
1.64	316,648	1.68	95.45	1.60	76,671	31	95.30	1.61	102,893	18	95.69	1.65	18,518	09	93.40	2	1.59	32,893	03	96.68	1	
1.66	31,194	16	95.61	1.62	14,011	05	96.35	1.63	7,604	03	95.72	1.66	546,026	2.62	96.02	3	1.60	55,813	06	96.74	2	
1.67	6,613	03	96.64	1.64	2,979	01	96.36	1.65	33,975	16	95.88	1.68	15,757	08	96.10	2	1.61	33,987	04	96.78	1	
1.68	26,519	16	96.80	1.65	115,630	49	96.85	1.66	16,117	07	96.95	1.69	110,635	53	96.63	2	1.70	41,141	06	96.84	1	
1.69	9,621	04	96.84	1.66	472,658	2.00	96.85	1.67	91,197	37	96.57	1.71	19,789	09	96.72	2	1.72	28,101	04	96.88	1	
1.71	10,556	05	96.89	1.67	26,328	11	96.96	1.68	60,891	25	96.57	1.72	50,178	24	96.96	1	1.75	352,310	39	97.27	2	
1.74	73,236	38	96.27	1.69	7,747	03	96.99	1.69	6,752	03	96.60	1.73	18,442	09	97.05	2	1.77	26,718	04	97.31	1	
1.75	375,803	1.99	96.26	1.70	3,422	02	99.01	1.71	9,560	04	96.64	1.74	17,344	08	97.13	2	1.78	1,713,782	1.95	99.26	2	
1.76	9,670	05	96.31	1.71	6,235	03	99.04	1.72	226,017	93	97.57	1.75	37,753	13	97.31	2	1.79	38,896	05	99.31	2	
1.77	19,728	10	96.36	1.72	10,218	04	99.08	1.73	10,220	04	97.61	1.76	19,824	09	97.40	1	1.81	344,644	38	99.70	2	
1.78	32,615	18	96.54	1.73	69,873	30	99.38	1.74	33,851	14	97.75	1.77	8,145	04	97.44	1	1.83	97,899	11	99.81	1	
1.80	57,275	30	96.84	1.74	92,367	39	99.77	1.75	11,642	06	97.80	1.78	24,800	11	97.55	1	1.97	17,602	02	99.83	1	
1.81	29,653	16	99.00	1.75	2,210	01	99.78	1.76	464,411	1.89	99.69	1.79	3,322	01	97.56	1	1.78	98,194	11	99.94	1	
1.84	4,735	03	99.03	1.76	4,276	02	99.80	1.77	26,017	93	99.95	1.80	32,975	17	97.73	2	1.79	19,003	02	99.96	1	
1.86	19,728	10	99.13	1.77	30,623	13	99.93	1.78	4,342	01	99.81	1.82	67,141	33	95.05	1	1.81	16,765	02	99.98	1	
1.87	4,612	04	99.17	1.78	9,423	04	99.97	1.79	2,197	01	99.82	1.83	362,359	1.69	96.75	1	1.83	14,060	02	100.00	1	
1.88	81,633	43	99.60	1.79	4,612	02	99.99	1.80	5,512	02	99.94	1.84	4,002	02	96.77	1	1.84	1,713,782	1.95	99.26	2	
1.91	15,251	09	99.69	1.80	2,210	01	99.78	1.81	26,576	11	99.95	1.85	15,146	07	99.84	1	1.86	38,896	05	99.31	2	
1.93	4,064	02	99.72	1.81	2,290	02	99.97	1.82	4,342	01	99.81	1.86	6,949	03	99.90	1	1.87	344,644	38	99.70	2	
1.99	2,917	02	99.74	1.82	2,576	02	100.00	1.83	2,576	02	100.00	1.87	2,311	03	99.96	1	1.88	97,899	11	99.81	1	
2.14	4,982	02	99.79	1.83	3,12	01	100.00	1.84	2,576	02	100.00	1.89	15,146	07	99.84	1	1.89	98,194	11	99.94	1	
2.22	6,225	03	99.82	1.85	2,418	01	100.00	1.86	26,576	11	99.95	1.90	32,975	17	97.73	2	1.90	19,003	02	99.96	1	
2.27	9,119	05	99.87	1.86	2,418	01	100.00	1.87	26,017	93	99.95	1.92	67,141	33	95.05	1	1.92	16,765	02	99.98	1	
2.49	1,828	01	99.89	1.87	2,418	01	100.00	1.88	4,342	01	99.81	1.93	362,359	1.69	96.75	1	1.93	14,060	02	100.00	1	
2.51	5,201	02	99.90	1.88	2,418	01	100.00	1.89	2,576	02	100.00	1.94	4,002	02	96.77	1	1.94	1,713,782	1.95	99.26	2	
2.88	16,195	09	99.99	1.89	2,418	01	100.00	1.90	26,576	11	99.95	1.95	15,146	07	99.84	1	1.95	38,896	05	99.31	2	
2.96	1,836	01	100.00	1.90	2,418	01	100.00	1.91	26,576	11	99.95	1.96	32,975	17	97.73	2	1.96	344,644	38	99.70	2	
1.36	18,926,946	100	100.00	199	1.28	23,675,600	100	100.00	1.31	24,502,451	100	100.00	1.35	20,538,156	100	100.00	139	1.37	87,993,186	100	100.00	139

TABLE 6.—Total "Revised" supply cost by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.	Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.	Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.	Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.	Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.	Per ton cost by \$0.01 group.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of packages by group.
0.01	50,713	0.29	0.29	3	0.03	39,279	0.17	0.17	2	0.04	20,509	0.09	0.09	1	0.05	108,871	0.12	0.12	1	0.06	28,976	0.14	0.14	1	0.07	32,947	0.16	0.16	1
0.02	7,844	0.01	0.30	2	0.06	27,743	0.03	0.20	1	0.07	8,104	0.03	0.11	1	0.08	25,334	0.11	0.11	3	0.09	32,947	0.14	0.20	2	0.08	88,089	0.09	0.29	2
0.03	7,881	0.03	0.33	2	0.07	150,945	0.64	0.94	7	0.08	2,351	0.01	0.39	1	0.08	16,919	0.08	0.18	2	0.09	69,140	0.07	0.36	3	0.09	69,140	0.07	0.36	3
0.04	16,475	0.09	0.42	1	0.08	88,483	0.38	1.32	2	0.09	126,769	0.50	0.89	4	0.10	18,010	0.09	0.35	1	0.10	37,743	0.05	0.41	1	0.10	37,743	0.05	0.41	1
0.05	45,833	0.24	0.66	3	0.09	50,041	0.22	1.54	2	0.10	18,073	0.08	0.97	2	0.11	4,340	0.02	0.37	1	0.11	112,217	0.13	0.54	3	0.12	112,217	0.13	0.54	3
0.06	64,684	0.33	0.99	4	0.10	8,455	0.04	1.58	1	0.12	6,857	0.03	1.00	1	0.12	4,896	0.03	0.40	1	0.13	392,278	0.44	0.98	4	0.13	392,278	0.44	0.98	4
0.07	37,527	0.20	1.19	3	0.11	40,849	0.18	1.76	3	0.13	94,558	0.38	1.38	3	0.13	40,255	0.20	0.60	3	0.14	597,741	0.69	1.67	6	0.14	597,741	0.69	1.67	6
0.08	46,186	0.24	1.43	3	0.12	14,305	0.07	1.83	2	0.14	166,282	0.68	2.06	8	0.14	57,700	0.28	0.88	1	0.15	100,726	0.11	1.78	4	0.15	100,726	0.11	1.78	4
0.09	115,558	0.62	2.05	4	0.13	63,565	0.27	2.10	3	0.15	35,178	0.15	2.21	3	0.15	15,865	0.07	0.95	3	0.16	834,208	0.96	2.74	5	0.16	834,208	0.96	2.74	5
0.10	35,935	0.21	2.26	5	0.14	125,455	0.54	2.64	2	0.16	140,642	0.58	2.79	3	0.16	175,235	0.84	1.79	4	0.17	192,936	0.21	2.95	2	0.17	192,936	0.21	2.95	2
0.11	49,702	0.26	2.52	2	0.15	227,736	0.94	3.58	7	0.17	295,351	1.19	3.98	8	0.18	8,100	0.03	0.82	1	0.18	15,705	0.01	2.96	1	0.18	15,705	0.01	2.96	1
0.12	139,505	0.73	3.25	6	0.16	6,750	0.03	3.61	1	0.18	1,094,638	4.11	8.09	4	0.18	193,824	0.95	2.77	7	0.19	3,456,448	3.95	6.91	6	0.19	3,456,448	3.95	6.91	6
0.13	51,298	0.28	3.53	1	0.17	1,096,871	4.62	8.23	6	0.19	223,459	0.91	9.00	9	0.19	388,063	1.81	4.58	4	0.20	462,356	0.54	7.45	4	0.20	462,356	0.54	7.45	4
0.14	827,816	4.39	7.92	6	0.18	103,212	0.44	8.67	4	0.20	461,118	1.89	10.89	6	0.20	159,533	0.77	5.35	5	0.21	1,652,337	1.88	9.33	7	0.21	1,652,337	1.88	9.33	7
0.15	485,655	2.32	10.51	6	0.19	390,471	1.63	10.30	8	0.21	593,354	2.42	13.31	6	0.21	194,242	0.78	6.13	9	0.22	1,578,512	1.78	11.11	7	0.22	1,578,512	1.78	11.11	7
0.16	436,634	2.32	10.51	6	0.20	739,727	3.13	13.43	5	0.22	157,597	0.64	13.95	4	0.22	410,351	1.98	8.11	4	0.23	2,741,561	3.14	14.25	10	0.23	2,741,561	3.14	14.25	10
0.17	588,035	3.11	13.62	6	0.21	296,024	1.15	14.58	4	0.23	895,694	3.65	17.60	11	0.23	62,990	0.03	8.41	4	0.24	1,411,549	1.60	15.85	5	0.24	1,411,549	1.60	15.85	5
0.18	323,656	1.70	15.32	6	0.22	133,212	0.78	15.36	6	0.24	231,693	1.01	18.61	6	0.24	125,702	0.64	9.05	6	0.25	2,124,459	2.42	18.27	8	0.25	2,124,459	2.42	18.27	8
0.19	224,507	1.17	16.49	7	0.23	106,784	1.73	17.34	8	0.25	479,771	1.97	20.58	6	0.25	987,971	4.73	13.78	5	0.26	15,990,665	18.10	36.37	5	0.26	15,990,665	18.10	36.37	5
0.20	6,819,645	36.03	52.52	8	0.24	1,198,251	5.05	22.75	11	0.26	699,885	11.02	31.60	8	0.26	96,277	0.46	14.24	2	0.27	19,880,324	22.62	58.99	8	0.27	19,880,324	22.62	58.99	8
0.21	906,025	4.79	57.31	7	0.25	615,921	2.61	40.36	11	0.27	10,477,459	42.74	74.34	12	0.27	99,669	4.8	14.72	3	0.28	5,480,220	6.22	65.21	9	0.28	5,480,220	6.22	65.21	9
0.22	330,978	1.69	59.00	5	0.26	6,179,138	26.12	66.48	12	0.28	512,291	2.09	76.43	3	0.28	992,923	4.74	19.46	8	0.29	2,711,174	3.09	68.30	7	0.29	2,711,174	3.09	68.30	7
0.23	142,917	0.76	60.76	5	0.27	702,929	3.22	69.70	9	0.29	990,597	4.04	80.47	8	0.29	22,084	1.12	19.58	2	0.30	3,835,381	4.35	72.65	7	0.30	3,835,381	4.35	72.65	7

27	617,352	3.25	63.01	7	28	949,607	4.01	73.71	11	30	875,832	3.56	84.03	10	30	678,538	3.26	22.94	9	31	3,433,070	3.91	76.56	7
28	1,718,844	9.06	72.09	9	29	1,090,906	7.25	80.96	12	31	853,685	3.49	87.52	6	31	3,303,209	15.84	28.68	3	32	2,877,302	3.28	79.84	6
29	1,825,994	7.19	79.11	9	30	359,998	1.51	82.47	2	32	77,767	1.99	87.94	2	32	1,999,594	2.29	82.13	6	33	1,999,594	2.29	82.13	7
30	226,694	1.19	80.30	7	31	271,318	1.15	83.62	5	33	486,581	1.99	89.83	3	33	4,719,969	22.64	66.35	6	34	439,251	1.51	82.64	6
31	657,578	3.48	83.76	6	32	1,304,918	5.50	89.12	5	34	19,716	1.07	89.90	2	34	759,941	3.64	69.96	7	35	5,456,103	6.22	88.86	6
32	153,810	82	84.60	3	33	190,491	7.79	89.91	4	35	13,276	0.06	89.96	1	35	84,468	2.98	91.74	2	36	2,536,936	2.98	91.74	5
33	874,447	4.61	89.21	5	34	629,529	2.65	92.56	4	36	260,551	1.32	91.28	5	36	189,194	0.91	70.39	3	37	277,173	0.82	92.42	4
34	234,442	1.23	90.44	5	35	406,008	1.72	94.28	2	37	105,257	1.44	91.72	2	37	71,244	0.35	71.65	3	38	321,945	0.36	92.42	1
35	166,244	1.87	91.31	4	36	126,708	1.56	94.84	3	38	254,760	1.04	92.76	3	38	212,760	1.02	72.07	2	39	220,861	0.26	92.68	2
36	254,523	1.34	92.65	5	37	214,182	0.90	95.74	4	39	226,556	0.93	93.69	3	39	265,009	1.76	74.43	6	40	366,220	0.42	93.10	2
37	68,493	38	93.01	2	38	204,573	0.85	96.59	6	40	152,368	0.62	94.31	5	40	233,378	1.12	73.55	4	41	422,400	0.48	93.58	3
38	87,573	43	93.47	3	39	106,318	0.47	97.06	5	41	111,701	0.47	94.78	6	41	943,660	4.53	80.60	6	42	81,408	0.35	93.66	1
39	243,894	1.29	94.76	7	40	11,465	0.05	97.11	1	42	318,752	1.30	96.06	2	42	17,209	0.09	80.17	2	43	452,898	0.47	94.13	4
40	277,129	1.43	96.24	7	41	70,429	0.30	97.41	2	43	144,375	0.59	96.67	2	43	449,822	2.15	82.32	4	44	1,190,188	1.35	96.48	7
41	35,586	1.15	96.42	2	42	110,782	0.47	97.88	2	44	9,415	0.04	96.71	1	44	49,599	0.23	82.55	3	45	875,971	1.00	96.48	3
42	41,540	22	96.64	2	43	80,633	0.34	98.22	1	45	142,190	0.58	97.29	3	45	213,037	1.03	83.58	6	46	228,933	0.25	96.73	1
43	44,753	23	96.87	2	44	8,796	0.04	98.26	1	46	84,438	0.22	97.51	4	46	1,180,631	1.36	98.09	3	47	1,180,631	1.36	98.09	3
44	9,119	0.05	96.92	1	45	9,320	0.04	98.30	3	47	135,456	0.65	90.97	2	47	227,201	0.12	98.47	1	48	112,408	0.12	98.47	1
45	50,177	26	97.18	2	46	77,901	0.33	98.63	3	48	181,348	0.74	98.31	2	48	114,684	0.70	91.67	2	49	112,408	0.12	98.47	1
46	17,286	0.09	97.27	2	47	15,797	0.06	98.69	2	49	135,969	0.55	98.86	1	49	134,089	0.65	92.32	3	50	49,468	0.06	98.53	2
47	53,172	29	97.58	2	48	80,633	0.34	98.22	1	50	32,052	0.13	98.99	1	50	213,037	1.03	83.58	6	51	203,880	0.23	98.76	2
48	81,632	29	97.99	1	49	206,159	0.67	98.60	1	51	32,052	0.13	98.99	1	51	213,037	1.03	83.58	6	52	14,967	0.10	98.91	2
49	72,744	26	98.38	2	50	43,998	0.18	98.90	1	52	84,438	0.24	98.63	1	52	135,456	0.65	90.97	2	53	821,883	0.63	98.73	2
50	72,744	26	98.38	2	51	43,998	0.18	98.90	1	53	84,438	0.24	98.63	1	53	135,456	0.65	90.97	2	54	821,883	0.63	98.73	2
51	72,744	26	98.38	2	52	43,998	0.18	98.90	1	54	84,438	0.24	98.63	1	54	135,456	0.65	90.97	2	55	821,883	0.63	98.73	2
52	72,744	26	98.38	2	53	43,998	0.18	98.90	1	55	15,857	0.07	98.58	2	55	135,456	0.65	90.97	2	56	14,967	0.10	98.91	2
53	72,744	26	98.38	2	54	43,998	0.18	98.90	1	56	15,857	0.07	98.58	2	56	135,456	0.65	90.97	2	57	14,967	0.10	98.91	2
54	72,744	26	98.38	2	55	43,998	0.18	98.90	1	57	26,576	0.11	99.69	1	57	198,925	0.95	95.08	3	58	25,409	0.03	99.94	1
55	72,744	26	98.38	2	56	43,998	0.18	98.90	1	58	26,576	0.11	99.69	1	58	198,925	0.95	95.08	3	59	25,409	0.03	99.94	1
56	72,744	26	98.38	2	57	43,998	0.18	98.90	1	59	11,858	0.05	99.74	1	59	98,968	0.47	93.60	1	60	49,558	0.06	100.00	1
57	72,744	26	98.38	2	58	43,998	0.18	98.90	1	60	12,012	0.05	99.70	1	60	30,978	0.15	93.65	2	61	49,558	0.06	100.00	1
58	72,744	26	98.38	2	59	43,998	0.18	98.90	1	61	2,976	0.01	99.80	1	61	50,495	0.24	93.86	2	62	49,558	0.06	100.00	1
59	72,744	26	98.38	2	60	43,998	0.18	98.90	1	62	2,976	0.01	99.80	1	62	50,495	0.24	93.86	2	63	49,558	0.06	100.00	1
60	72,744	26	98.38	2	61	43,998	0.18	98.90	1	63	2,976	0.01	99.80	1	63	50,495	0.24	93.86	2	64	49,558	0.06	100.00	1
61	72,744	26	98.38	2	62	43,998	0.18	98.90	1	64	2,976	0.01	99.80	1	64	50,495	0.24	93.86	2	65	49,558	0.06	100.00	1
62	72,744	26	98.38	2	63	43,998	0.18	98.90	1	65	14,530	0.06	99.98	1	65	115,533	0.56	96.50	2	66	49,558	0.06	100.00	1
63	72,744	26	98.38	2	64	43,998	0.18	98.90	1	66	14,530	0.06	99.98	1	66	115,533	0.56	96.50	2	67	49,558	0.06	100.00	1
64	72,744	26	98.38	2	65	43,998	0.18	98.90	1	67	6,246	0.02	100.00	1	67	352,359	1.69	98.19	1	68	49,558	0.06	100.00	1
65	72,744	26	98.38	2	66	43,998	0.18	98.90	1	68	6,246	0.02	100.00	1	68	352,359	1.69	98.19	1	69	49,558	0.06	100.00	1
66	72,744	26	98.38	2	67	43,998	0.18	98.90	1	69	6,246	0.02	100.00	1	69	352,359	1.69	98.19	1	70	49,558	0.06	100.00	1
67	72,744	26	98.38	2	68	43,998	0.18	98.90	1	70	6,246	0.02	100.00	1	70	352,359	1.69	98.19	1	71	49,558	0.06	100.00	1
68	72,744	26	98.38	2	69	43,998	0.18	98.90	1	71	6,246	0.02	100.00	1	71	352,359	1.69	98.19	1	72	49,558	0.06	100.00	1
69	72,744	26	98.38	2	70	43,998	0.18	98.90	1	72	6,246	0.02	100.00	1	72	352,359	1.69	98.19	1	73	49,558	0.06	100.00	1
70	72,744	26	98.38	2	71	43,998	0.18	98.90	1	73	6,246	0.02	100.00	1	73	352,359	1.69	98.19	1	74	49,558	0.06	100.00	1
71	72,744	26	98.38	2	72	43,998	0.18	98.90	1	74	6,246	0.02	100.00	1	74	352,359	1.69	98.19	1	75	49,558	0.06	100.00	1
72	72,744	26	98.38	2	73	43,998	0.18	98.90	1	75	6,246	0.02	100.00	1	75	352,359	1.69	98.19	1	76	49,558	0.06	100.00	1
73	72,744	26	98.38	2	74	43,998	0.18	98.90	1	76	6,246	0.02	100.00	1	76	352,359	1.69	98.19	1	77	49,558	0.06	100.00	1
74	72,744	26	98.38	2	75	43,998	0.18	98.90	1	77	6,246	0.02	100.00	1	77	352,359	1.69	98.19	1	78	49,558	0.06	100.00	1
75	72,744	26	98.38	2	76	43,998	0.18	98.90	1	78	6,246	0.02	100.00	1	78	352,359	1.69	98.19	1	79	49,558	0.06	100.00	1
76	72,744	26	98.38	2	77	43,998	0.18	98.90	1	79	6,246	0.02	100.00	1	79	352,359	1.69	98.19	1	80	49,558	0.06	100.00	1
77	72,744	26	98.38	2	78	43,998	0.18	98.90	1	80	6,246	0.02	100.00	1	80	352,359	1.69	98.19	1	81	49,558	0.06	100.00	1
78	72,744	26	98.38	2	79	43,998	0.18	98.90	1	81	6,246	0.02	100.00	1	81	352,359	1.69	98.19	1	82	49,558	0.06	100.00	1
79	72,744	26	98.38	2	80	43,998	0.18	98.90	1	82	6,246	0.02	100.00	1	82	352,359	1.69	98.19	1	83	49,558	0.06	100.00	1
80	72,744	26	98.38	2	81	43,998	0.18	98.90	1	83	6,246	0.02	100.00	1	83	352,359	1.69	98.19	1	84	49,558	0.06	100.00	1
81	72,744	26	98.38	2	82	43,998	0.18	98.90	1	84	6,246	0.02	100.00	1	84	352,359	1.69	98.19	1	85	49,558	0.06	100.00	1
82	72,744	26	98.38	2	83	4																		

COST REPORTS OF THE FEDERAL TRADE COMMISSION.

TABLE 7.—Total "Revised" general expenses, by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per	Produc-	Per	Accu-	Num-		Per	Produc-	Per	Accu-	Num-		Per	Produc-	Per	Accu-	Num-		Per	Produc-	Per	Accu-	Num-		Per	Produc-	Per	Accu-	Num-	
ton	tion	cent	mulated	ber		ton	tion	cent	mulated	ber		ton	tion	cent	mulated	ber		ton	tion	cent	mulated	ber		ton	tion	cent	mulated	ber	
cost	by	of	per	of		cost	by	of	per	of		cost	by	of	per	of		cost	by	of	per	of		cost	by	of	per	of	
\$0.01	net	total	cent.	com-		\$0.01	net	total	cent.	com-		\$0.01	net	total	cent.	com-		\$0.01	net	total	cent.	com-		\$0.01	net	total	cent.	com-	
group-	toms).			ing.		group-	toms).			ing.		group-	toms).			ing.		group-	toms).			ing.		group-	toms).			ing.	
ing.						ing.						ing.						ing.						ing.					
\$0.05	2,138	0.01	0.01	1		\$0.03	12,898	0.05	0.05	1		\$0.03	16,912	0.06	0.06	1		\$0.03	14,940	0.08	0.08	1		\$0.03	54,299	0.08	0.08	1	
.06	19,219	.11	.12	2		.05	2,379	.01	.01	1		.05	2,251	.01	.01	1		.04	2,699	.01	.01	1		.05	9,487	.01	.01	1	
.13	90,786	.48	.60	2		.11	6,571	.03	.09	1		.09	6,270	.03	.10	1		.11	4,891	.02	.11	1		.14	48,551	.06	.13	1	
.14	17,980	.09	.09	2		.15	77,794	.32	.41	2		.10	500,971	2.05	2.15	2		.12	34,028	.16	.27	1		.15	283,028	.32	.45	1	
.17	141,459	.74	1.43	2		.16	57,027	.24	.65	1		.13	100,178	.41	2.56	1		.13	12,453	.06	.33	1		.16	43,763	.05	.50	1	
.18	314,992	1.66	3.09	3		.17	58,009	.25	.90	1		.15	55,558	.23	2.79	1		.16	19,209	.10	.43	1		.17	214,424	.24	.74	1	
.19	87,218	.46	3.55	2		.18	843,331	3.47	4.37	3		.16	67,535	.27	3.06	1		.17	73,356	.35	.78	2		.18	671,295	.76	1.50	3	
.20	455,338	2.41	5.96	2		.19	194,091	.82	5.19	5		.17	181,824	.74	3.80	2		.18	71,524	.39	1.17	2		.19	1,767,066	2.02	3.52	3	
.22	132,006	.71	6.07	3		.20	183,378	.77	5.96	3		.18	81,138	.33	4.13	1		.19	197,748	.95	2.12	4		.20	1,817,868	2.07	5.50	1	
.23	606,158	3.20	9.87	1		.21	291,877	1.22	7.18	3		.19	416,924	1.69	5.32	4		.20	61,941	.29	2.41	2		.21	334,244	.38	5.97	2	
.24	408,240	2.19	12.08	7		.22	545,485	23.43	30.61	4		.20	294,516	5.29	11.11	3		.21	628,711	2.99	5.49	2		.22	871,017	4.41	10.38	2	
.25	119,409	.62	12.68	4		.23	514,363	20.05	30.64	5		.21	259,046	5.29	11.11	3		.22	3,303,464	1.41	11.37	6		.23	3,303,464	1.41	11.37	6	
.26	378,823	20.01	32.69	7		.24	514,363	1.70	52.01	3		.23	284,703	19.31	33.81	5		.24	1,077,183	2.17	10.37	3		.24	1,077,183	2.17	10.37	3	
.27	170,638	16.23	48.94	1		.25	159,224	4.65	52.01	5		.24	187,733	16.91	33.81	5		.25	483,877	2.73	12.72	3		.25	1,182,824	18.57	39.74	8	
.28	321,022	4.34	53.28	7		.26	222,021	5.17	53.18	7		.24	106,520	6.50	50.96	6		.25	729,543	22.69	33.52	8		.26	887,030	.98	50.68	5	
.30	728,968	3.84	57.12	4		.27	163,179	.69	58.87	2		.25	259,046	5.29	11.11	3		.26	3,323,305	15.97	51.39	4		.27	937,499	1.07	51.75	2	
.31	178,974	8.86	65.98	11		.28	726,934	3.08	61.95	5		.26	868,823	3.55	55.56	7		.27	385,041	20.50	51.59	2		.28	3,104,289	3.54	55.29	3	
.32	418,655	2.60	68.18	4		.29	358,413	1.51	63.46	5		.27	519,439	2.13	67.69	9		.28	284,414	1.22	52.81	3		.29	4,238,265	5.06	60.35	5	
.33	264,449	1.38	69.56	9		.30	241,664	5.33	68.79	14		.28	833,390	3.48	61.17	2		.29	622,773	2.99	55.80	6		.30	2,784,843	3.16	63.51	5	
.34	456,924	5.89	71.98	4		.31	1,000,108	4.24	73.03	7		.29	1,866,526	6.50	50.96	10		.31	118,064	.56	56.36	6		.31	3,114,490	3.55	67.06	7	
.35	115,992	5.89	77.87	7		.32	552,890	2.34	75.37	4		.30	402,006	5.72	73.69	6		.32	921,933	4.41	60.77	4		.32	4,081,698	4.63	71.69	8	
.36	121,294	6.63	78.50	5		.33	68,637	.29	75.66	2		.31	546,264	2.23	75.62	3		.33	977,744	4.69	65.46	7		.33	3,086,404	3.52	75.21	5	
.37	131,321	3.60	82.10	7		.34	964,462	4.03	79.69	4		.32	110,530	4.25	76.07	4		.34	483,636	2.37	67.83	7		.34	1,130,543	1.27	76.48	7	
.38	291,271	3.51	83.96	5		.35	1,007,876	4.27	83.96	8		.33	892,398	3.64	71.89	9		.35	845,118	4.06	71.89	8		.35	3,569,932	4.04	80.82	9	
.39	263,904	1.40	85.05	3		.36	189,787	.79	84.75	2		.34	26,261	1.22	79.83	2		.36	717,342	3.43	75.32	5		.36	3,300,124	.34	80.86	4	
.40	90,097	.48	86.33	3		.37	311,495	1.31	86.06	2		.35	190,163	.79	80.62	4		.37	827,910	3.97	79.29	10		.37	2,426,705	2.77	83.63	5	
.41	169,327	1.14	87.57	6		.38	494,898	1.97	88.03	7		.36	353,472	5.52	86.14	8		.38	216,798	1.04	80.33	3		.38	1,602,170	1.83	86.07	3	
.42	214,765	1.49	87.87	2		.39	45,813	.17	88.20	5		.37	163,403	.67	86.14	8		.39	544,431	2.61	82.94	6		.39	539,598	.61	86.07	5	
.43	92,960	1.49	88.65	3		.40	106,762	.45	88.65	4		.38	204,203	.85	87.66	3		.40	124,800	.61	83.93	2		.40	835,853	.93	87.02	2	
.44	146,188	.78	88.94	3		.41	116,860	.45	89.13	4		.39	88,500	.35	88.01	6		.41	79,414	.38	83.93	2		.41	319,279	.39	87.41	4	

[Based on net tons of 2,000 pounds.]

45	27,003	15,88.99	3	42	46,891	21,88.34	3	40	242,006	99,88.00	4	42	91,827	44,84.37	2	42	417,157	.48,87.96	5
46	316,139	1,66.90.65	6	43	242,641	1,03.90.37	5	41	65,980	.27,88.27	4	43	478,328	2,30.86.67	3	43	341,938	.39,88.28	4
47	52,243	2,28.90.93	5	44	173,142	.75.91.12	4	42	37,077	.16.89.43	4	44	148,540	1,72.87.39	5	44	1,238,073	1,40.89.68	4
48	498,228	2,62.93.55	5	45	59,339	.25.91.37	2	43	10,377	.04.86.47	1	45	230,924	1,11.88.50	5	45	80,548	.09.89.77	3
49	21,729	.11.93.60	2	46	8,800	.04.91.41	1	44	200,213	.82.90.29	5	46	1,088,626	1,22.90.99	3	46	1,088,626	1,22.90.99	3
50	78,700	.11.94.07	1	47	41,589	.18.91.59	3	45	91,832	.37.90.66	2	47	213,140	1,02.89.85	5	47	227,177	.26.91.25	3
51	54,225	.28.84.35	4	48	265,844	1,25.92.84	4	46	458,984	1,88.92.54	2	48	204,826	.23.91.48	3	48	204,826	.23.91.48	3
52	213,315	1,15.88.90	6	49	375,944	1,58.94.92	3	47	49,367	.21.92.75	2	49	2,324,398	2,63.94.11	5	49	2,324,398	2,63.94.11	5
53	9,310	.07.98.58	1	50	175,182	.73.95.15	4	48	216,895	.88.93.63	1	50	59,657	.07.94.18	2	50	59,657	.07.94.18	2
54	146,176	.77.98.33	2	51	139,645	.59.96.74	5	49	115,949	.47.94.10	4	51	37,009	.04.94.22	4	51	37,009	.04.94.22	4
55	223,292	1,20.97.53	4	52	328,409	1,38.97.12	8	50	257,456	1,05.95.15	2	52	283,189	1,11.98.57	3	52	1,424,180	1,60.95.82	7
56	58,048	.58.97.90	3	53	10,424	.04.97.16	1	51	86,004	.14.95.29	3	53	38,704	.38.93.95	1	53	165,059	.19.96.00	3
57	10,988	.08.97.90	2	54	9,320	.04.97.20	1	52	189,556	.69.95.98	2	54	322,040	1,54.95.49	6	54	894,142	.67.96.77	4
58	3,884	.02.97.92	1	55	183,443	.82.98.02	3	53	146,938	.60.96.58	2	55	19,099	.10.95.39	2	55	906,718	1,04.97.71	4
59	49,366	.28.98.18	4	56	141,401	.60.98.62	3	54	215,906	.87.97.45	2	56	173,740	.83.96.42	1	56	65,398	.08.97.79	1
60	81,512	.43.98.61	2	57	32,760	.14.98.76	2	55	21,679	.09.97.54	3	57	107,825	.52.96.94	3	57	115,229	.13.97.92	2
61	8,040	.05.98.66	1	58	5,551	.02.98.78	1	56	186,310	.78.98.32	5	58	24,444	.12.97.06	2	58	482,504	.56.98.48	2
62	7,600	.04.98.70	1	59	9,266	.04.98.36	1	57	8,829	.04.98.36	1	59	8,829	.04.97.11	1	59	68,473	.06.98.54	3
63	3,436	.02.98.81	1	60	70,092	.28.98.64	5	58	2,363	.01.97.11	1	60	2,363	.01.97.11	1	60	125,357	.14.98.68	1
64	74,276	.31.98.12	2	61	14,461	.06.98.70	2	61	24,274	.12.97.23	1	61	24,274	.12.97.23	1	61	37,434	.04.98.72	1
65	7,343	.03.99.15	1	62	35,719	.15.98.85	3	62	43,278	.22.97.45	3	62	43,278	.22.97.45	3	62	86,271	.10.98.82	2
66	11,832	.04.99.19	1	63	19,886	.06.98.63	3	63	102,156	.49.97.94	1	63	102,156	.49.97.94	1	63	96,401	.12.98.94	2
67	15,921	.03.99.22	2	64	84,633	.35.99.29	3	64	18,817	.09.98.03	3	64	18,817	.09.98.03	3	64	141,141	.06.99.00	1
68	11,837	.04.99.26	1	65	24,342	.01.99.29	1	65	46,077	.21.98.24	2	65	46,077	.21.98.24	2	65	141,061	.17.99.17	3
69	6,476	.06.99.29	1	66	24,965	.10.99.39	1	66	77,515	.37.98.61	1	66	77,515	.37.98.61	1	66	223,429	.26.99.43	2
70	12,284	.05.99.34	1	67	12,284	.05.99.34	1	67	12,284	.05.99.34	1	67	12,284	.05.99.34	1	67	53,986	.06.99.49	2
71	52,867	.23.99.57	2	68	52,867	.23.99.57	2	68	52,867	.23.99.57	2	68	52,867	.23.99.57	2	68	22,277	.02.99.51	1
72	13,576	.06.99.63	2	69	13,576	.06.99.63	2	69	13,576	.06.99.63	2	69	13,576	.06.99.63	2	69	46,467	.06.99.57	1
73	20,932	.09.99.72	1	70	20,932	.09.99.72	1	70	5,512	.02.99.86	1	70	5,512	.02.99.86	1	70	17,375	.02.99.59	1
74	4,038	.02.99.74	1	71	4,038	.02.99.74	1	71	11,932	.04.99.90	1	71	11,932	.04.99.90	1	71	43,386	.06.99.64	1
75	7,743	.03.99.77	1	72	7,743	.03.99.77	1	72	8,989	.04.99.94	1	72	8,989	.04.99.94	1	72	197,194	.23.99.87	1
76	12,724	.06.99.83	1	73	12,724	.06.99.83	1	73	6,752	.03.99.97	1	73	6,752	.03.99.97	1	73	39,185	.04.99.91	1
77	2,416	.01.99.84	1	74	2,416	.01.99.84	1	74	6,303	.03.100.00	1	74	6,303	.03.100.00	1	74	37,174	.04.99.93	1
78	10,748	.05.99.90	1	75	10,748	.05.99.90	1	75	10,748	.05.99.90	1	75	10,748	.05.99.90	1	75	27,359	.08.99.98	1
79	8,909	.03.99.93	1	76	8,909	.03.99.93	1	76	8,909	.03.99.93	1	76	8,909	.03.99.93	1	76	27,097	.02.100.00	1
80	5,996	.04.99.97	1	77	5,996	.04.99.97	1	77	5,996	.04.99.97	1	77	5,996	.04.99.97	1	77	27,097	.02.100.00	1
81	7,413	.08.100.00	1	78	7,413	.08.100.00	1	78	7,413	.08.100.00	1	78	7,413	.08.100.00	1	78	27,097	.02.100.00	1
82	1,111	.01.100.00	1	79	1,111	.01.100.00	1	79	1,111	.01.100.00	1	79	1,111	.01.100.00	1	79	27,097	.02.100.00	1
83	1,111	.01.100.00	1	80	1,111	.01.100.00	1	80	1,111	.01.100.00	1	80	1,111	.01.100.00	1	80	27,097	.02.100.00	1
84	1,111	.01.100.00	1	81	1,111	.01.100.00	1	81	1,111	.01.100.00	1	81	1,111	.01.100.00	1	81	27,097	.02.100.00	1
85	1,111	.01.100.00	1	82	1,111	.01.100.00	1	82	1,111	.01.100.00	1	82	1,111	.01.100.00	1	82	27,097	.02.100.00	1
86	1,111	.01.100.00	1	83	1,111	.01.100.00	1	83	1,111	.01.100.00	1	83	1,111	.01.100.00	1	83	27,097	.02.100.00	1
87	1,111	.01.100.00	1	84	1,111	.01.100.00	1	84	1,111	.01.100.00	1	84	1,111	.01.100.00	1	84	27,097	.02.100.00	1
88	1,111	.01.100.00	1	85	1,111	.01.100.00	1	85	1,111	.01.100.00	1	85	1,111	.01.100.00	1	85	27,097	.02.100.00	1
89	1,111	.01.100.00	1	86	1,111	.01.100.00	1	86	1,111	.01.100.00	1	86	1,111	.01.100.00	1	86	27,097	.02.100.00	1
90	1,111	.01.100.00	1	87	1,111	.01.100.00	1	87	1,111	.01.100.00	1	87	1,111	.01.100.00	1	87	27,097	.02.100.00	1
91	1,111	.01.100.00	1	88	1,111	.01.100.00	1	88	1,111	.01.100.00	1	88	1,111	.01.100.00	1	88	27,097	.02.100.00	1
92	1,111	.01.100.00	1	89	1,111	.01.100.00	1	89	1,111	.01.100.00	1	89	1,111	.01.100.00	1	89	27,097	.02.100.00	1
93	1,111	.01.100.00	1	90	1,111	.01.100.00	1	90	1,111	.01.100.00	1	90	1,111	.01.100.00	1	90	27,097	.02.100.00	1
94	1,111	.01.100.00	1	91	1,111	.01.100.00	1	91	1,111	.01.100.00	1	91	1,111	.01.100.00	1	91	27,097	.02.100.00	1
95	1,111	.01.100.00	1	92	1,111	.01.100.00	1	92	1,111	.01.100.00	1	92	1,111	.01.100.00	1	92	27,097	.02.100.00	1
96	1,111	.01.100.00	1	93	1,111	.01.100.00	1	93	1,111	.01.100.00	1	93	1,111	.01.100.00	1	93	27,097	.02.100.00	1
97	1,111	.01.100.00	1	94	1,111	.01.100.00	1	94	1,111	.01.100.00	1	94	1,111	.01.100.00	1	94	27,097	.02.100.00	1
98	1,111	.01.100.00	1	95	1,111	.01.100.00	1	95	1,111	.01.100.00	1	95	1,111	.01.100.00	1	95	27,097	.02.100.00	1
99	1,111	.01.100.00	1	96	1,111	.01.100.00	1	96	1,111	.01.100.00	1	96	1,111	.01.100.00	1	96	27,097	.02.100.00	1
100	1,111	.01.100.00	1	97	1,111	.01.100.00	1	97	1,111	.01.100.00	1	97	1,111	.01.100.00	1	97	27,097	.02.100.00	1
101	1,111	.01.100.00	1	98	1,111	.01.100.00	1	98	1,111	.01.100.00	1	98	1,111	.01.100.00	1	98	27,097	.02.100.00	1
102	1,111	.01.100.00	1	99	1,111	.01.100.00	1	99	1,111	.01.100.00	1	99	1,111	.01.100.00	1	99	27,097	.02.100.00	1
103	1,111	.01.100.00	1	100	1,111	.01.100.00	1	100	1,111	.01.100.00	1	100	1,111	.01.100.00	1	100	27,097	.02.100.00	1
104	1,111	.01.100.00	1	101	1,111	.01.100.00	1	101	1,111	.01.100.00	1	101	1,111	.01.100.00	1	101	27,097	.02.100.00	1
105	1,111	.01.100.00	1	102	1,111	.01.100.00	1	102	1,111	.01.100.00	1	102	1,111	.01.100.00	1	102	27,097	.02.100.00	1
106	1,111	.01.100.00	1	103	1,111	.01.100.00	1	103	1,111	.01.100.00	1	103	1,111	.01.100.00	1	103	27,097	.02.100.00	1
107	1,111	.01.100.00	1	104	1,111	.01.100.00	1	104	1,111	.01.100.00	1	104	1,111	.01.100.00	1	104	27,097	.02.100.00	1
108	1,111	.01.100.00	1	105	1,111	.01.100.00	1	105	1,111	.01.100.00	1								

TABLE 8.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.
[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pa-nies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pa-nies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pa-nies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pa-nies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pa-nies by group-ing.	
\$1.16	15,658	0.08	0.08	1		\$1.12	18,895	0.08	0.08	1		\$1.11	20,825	0.08	0.08	1		\$1.26	31,076	0.15	0.15	1		\$1.21	68,308	0.08	0.08	1	
1.32	48,897	.20	.32	1		1.14	76,456	.32	.32	1		1.13	31,461	.13	.21	1		1.31	16,914	.08	.23	1		1.22	106,555	.12	.32	1	
1.35	16,881	.09	.43	1		1.17	77,010	.53	.73	1		1.23	81,138	.33	.64	1		1.34	72,691	.35	.58	1		1.24	280,036	.32	.64	1	
1.37	67,107	.35	.78	2		1.20	27,137	.12	.85	1		1.33	100,178	.41	.85	1		1.36	22,699	.01	.89	1		1.31	279,459	.32	.84	1	
1.40	11,674	.06	.84	1		1.25	81,966	.34	1.19	1		1.36	24,864	.10	1.05	1		1.40	25,817	.13	.72	1		1.43	80,548	.09	.93	1	
1.48	24,374	.13	.97	1		1.27	17,478	.07	1.26	1		1.38	20,331	.09	1.14	1		1.47	22,414	.10	.82	1		1.44	23,724	.02	.95	1	
1.50	37,077	.20	1.17	1		1.35	37,239	.04	1.30	1		1.38	84,671	.33	1.48	1		1.57	182,420	.58	1.70	3		1.45	45,368	.08	1.03	1	
1.51	32,707	.21	1.38	1		1.35	29,074	.09	1.30	1		1.37	78,763	.33	1.51	2		1.59	31,153	.12	1.50	1		1.46	64,467	.11	1.04	1	
1.57	147,099	.77	2.15	2		1.43	103,696	.44	1.83	2		1.44	44,627	.19	1.07	1		1.61	34,443	.12	1.82	1		1.50	98,050	.11	1.15	1	
1.58	86,840	.46	2.61	3		1.42	38,158	.16	1.99	1		1.49	24,464	.10	1.80	1		1.65	31,733	.20	2.12	2		1.51	67,570	.08	1.23	1	
1.60	10,622	.05	2.66	1		1.45	2,379	.01	2.00	1		1.52	87,952	.35	2.15	3		1.67	14,794	.07	2.19	1		1.52	291,966	.33	1.56	1	
1.61	325,751	1.73	4.39	2		1.46	29,513	.12	2.12	1		1.53	131,290	.54	2.69	2		1.68	270,064	1.29	3.48	1		1.56	214,424	.24	1.80	1	
1.62	49,421	.26	4.65	1		1.49	20,060	.04	2.21	1		1.54	59,016	.24	2.63	2		1.70	49,627	.24	3.72	2		1.57	133,434	.16	1.96	1	
1.63	3,667	.02	4.67	2		1.52	30,119	.12	2.33	1		1.56	55,558	.23	3.16	1		1.71	73,882	.36	4.08	2		1.59	294,556	.33	2.29	3	
1.64	60,972	.32	4.99	2		1.53	104,872	.45	2.78	2		1.58	15,947	.06	3.22	1		1.72	25,285	.12	4.20	2		1.60	450,703	.51	2.80	1	
1.66	49,331	.27	5.26	2		1.54	76,331	.32	3.10	2		1.59	19,204	.08	3.30	1		1.73	29,226	.14	4.34	1		1.63	158,457	.19	2.99	1	
1.67	133,039	.69	5.95	2		1.55	110,131	.46	3.56	1		1.61	341,179	1.39	4.69	2		1.76	285,576	1.37	5.71	4		1.64	1,167,513	1.32	4.31	1	
1.69	87,218	.46	6.41	1		1.57	45,208	.19	3.75	1		1.62	374,501	1.53	6.22	3		1.77	11,273	.05	5.76	1		1.65	475,693	.55	4.86	1	
1.70	35,324	.19	6.60	2		1.58	82,433	.35	4.10	2		1.63	16,847	.07	6.36	1		1.78	99,217	.48	6.24	2		1.66	200,016	.22	5.08	1	
1.71	5,533	.03	6.63	1		1.60	15,128	.07	4.17	1		1.64	16,944	.07	6.30	1		1.80	31,535	1.52	7.76	2		1.68	991,240	1.13	6.21	3	
1.72	63,987	.33	6.96	2		1.61	256,207	1.08	5.25	4		1.65	111,384	.45	6.81	4		1.81	107,094	.52	8.28	2		1.69	141,513	.16	6.37	2	
1.73	679,916	3.60	10.56	1		1.62	29,981	.13	5.38	1		1.67	166,647	.68	7.49	2		1.82	230,650	1.11	9.39	3		1.71	474,506	.54	6.91	1	
1.74	5,731	.03	10.59	1		1.63	149,745	.63	6.01	1		1.68	181,941	4.83	12.32	2		1.83	212,889	1.01	10.39	1		1.72	283,480	.32	7.23	2	
1.75	237,467	1.25	11.84	2		1.64	47,716	.20	6.21	1		1.69	28,311	.11	12.43	2		1.85	14,538	.07	10.47	1		1.74	62,025	.08	7.31	1	
1.76	108,115	.37	12.41	4		1.65	185,248	.78	6.99	4		1.71	8,104	.03	12.46	1		1.86	45,936	.29	10.69	1		1.75	57,089	.06	7.37	1	

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1.71	42,794	231	12.64	1.69	286,267	1.21	8.20	1.1	1.72	115,507	.49	12.94	1.88	78,778	.38	11.07	1.79	2,130,535	2.43	9.80	8
1.72	128,613	.65	13.29	1.67	136,330	.53	8.78	2	1.73	899,639	19.87	32.81	1.89	4,130	.04	11.11	1.77	44,806	.06	9.89	1
1.73	429,433	18.08	37.59	1.68	402,828	18.86	27.59	3	1.74	253,244	1.03	33.84	1.91	201,430	20.14	11.25	1.78	528,099	22.22	32.07	3
1.74	9,833	.06	31.42	1.69	446,168	1.89	28.48	4	1.75	511,088	2.09	35.93	1.92	167,857	3.41	32.06	1.82	1,375,868	1.56	33.63	2
1.75	265,664	1.35	32.77	1.70	774,913	1.37	32.76	5	1.76	49,427	.20	36.13	1.93	718,739	3.44	35.90	1.83	3,593,066	4.37	35.00	1
1.76	84,613	.45	33.22	1.71	425,862	1.80	34.55	6	1.77	1,464,486	5.98	42.11	1.94	628,919	3.02	38.52	1.84	361,542	.41	38.41	2
1.77	262,618	.19	34.60	1.72	402,606	1.70	36.25	7	1.78	91,662	.37	42.48	1.95	12,827	.09	38.56	1.85	747,832	.17	38.58	2
1.78	36,037	.06	34.99	1.73	1,51,571	4.33	41.07	8	1.79	446,369	1.32	44.30	1.96	648,380	8.11	41.09	1.86	2,786,221	8.14	41.72	3
1.79	11,991	.06	31.42	1.74	54,798	1.81	41.21	9	1.80	44,798	.13	44.45	1.97	986,332	4.73	42.06	1.87	83,677	.11	41.63	2
1.80	177,607	.94	35.66	1.75	55,067	.22	41.45	10	1.81	211,061	.86	45.94	1.98	74,366	.36	46.78	1.88	404,860	.45	42.25	4
1.81	33,985	.18	35.87	1.76	840,431	3.55	44.08	11	1.82	812,242	3.24	48.66	1.99	99,545	.47	47.45	1.89	4,610,883	5.25	47.53	4
1.82	33,198	.12	37.18	1.77	868,821	1.54	45.44	12	1.83	91,867	.59	49.02	2.00	99,248	15.43	62.48	1.90	1,770,281	1.70	48.23	3
1.83	282,180	.63	43.18	1.78	701,770	10.56	46.49	13	1.84	154,439	18.78	60.30	2.01	320,244	1.57	64.26	1.91	2,392,010	2.62	67.88	4
1.84	7,945	.41	44.22	1.79	201,246	.56	46.26	14	1.85	181,690	2.41	70.77	2.02	27,100	.44	64.49	1.92	3,392,010	2.62	67.88	4
1.85	186,123	.79	68.08	1.80	561,542	.21	70.77	15	1.86	561,542	.21	70.77	2.03	3,028	.16	64.88	1.93	1,854,869	2.11	69.99	3
1.86	294,944	17.09	61.81	1.81	136,069	.87	68.62	16	1.87	181,063	.74	71.51	2.04	142,492	.68	65.53	1.94	198,511	.22	70.21	4
1.87	614,262	3.24	64.55	1.82	390,482	1.85	70.27	17	1.88	404,581	1.65	73.16	2.05	681,032	3.17	68.70	1.95	754,179	.96	71.07	4
1.88	564,040	2.58	67.53	1.83	220,072	.97	71.24	18	1.89	6,270	.08	73.19	2.06	211,511	1.02	69.72	1.96	35,531	.04	71.11	1
1.89	36,317	.20	67.78	1.84	421,372	1.78	73.02	19	1.90	5,511	.08	73.22	2.07	423,338	1.03	71.75	1.97	252,848	.29	71.40	3
1.90	957,137	5.05	72.78	1.85	114,791	.48	73.50	20	1.91	706,860	3.13	76.35	2.08	105,027	.50	72.25	1.98	2,220,467	2.52	73.92	4
1.91	523,557	2.77	75.55	1.86	988,051	4.18	77.69	21	1.92	589,432	2.32	78.67	2.09	382,498	1.83	74.08	1.99	2,594,392	2.92	75.84	4
1.92	230,257	1.26	76.81	1.87	322,359	1.36	79.04	22	1.93	110,364	1.45	79.12	2.10	48,247	.24	74.32	2.00	1,293,260	1.40	75.24	5
1.93	662,025	3.60	80.47	1.88	166,359	.70	79.74	23	1.94	409,867	1.68	80.80	2.11	110,497	.53	74.85	2.01	646,209	.74	75.98	3
1.94	97,759	.52	80.99	1.89	539,907	2.29	82.08	24	1.95	14,356	.06	80.86	2.12	83,945	1.35	80.49	2.02	1,214,260	1.38	80.36	2
1.95	88,660	.46	81.45	1.90	95,152	.40	82.48	25	2.01	233,268	.95	81.81	2.13	6,174	.03	75.28	2.03	885,514	1.01	81.37	2
1.96	195,363	1.04	82.49	1.91	11,423	.04	82.47	26	2.02	534,168	2.18	83.99	2.14	92,054	.44	75.72	2.04	615,900	.69	82.06	2
1.97	9,864	.05	82.84	1.92	83,715	.36	82.88	27	2.03	12,219	.05	84.04	2.15	31,231	.24	75.87	2.05	151,122	.18	82.24	3
1.98	62,711	.33	82.87	1.93	212,981	.90	83.73	28	2.04	204,241	.83	84.87	2.16	582,549	2.79	78.66	2.06	163,327	.18	82.42	1
1.99	27,747	.15	83.02	1.94	178,498	.75	84.48	29	2.05	75,277	.81	85.18	2.17	403,006	1.93	80.59	2.07	194,335	.22	82.64	5
2.00	155,906	.82	83.84	1.95	209,441	1.37	85.75	30	2.07	103,062	.42	85.60	2.18	44,330	.22	80.81	2.08	1,385,068	1.58	84.22	2
2.01	48,186	.26	84.10	1.96	117,188	.49	86.24	31	2.08	46,092	.49	86.48	2.19	222,842	1.06	81.87	2.09	1,613,237	1.84	86.06	4
2.02	6,613	.08	84.13	1.97	14,710	.06	86.30	32	2.09	323,066	1.31	87.79	2.20	19,209	.10	81.97	2.10	214,015	.24	86.30	2
2.03	59,847	.59	84.72	1.98	231,569	.11	86.41	33	2.10	845,898	.42	88.52	2.21	20,929	.17	82.14	2.11	433,142	.49	86.79	4
2.04	111,718	.11	85.96	1.99	181,946	.55	86.96	34	2.11	67,855	.27	88.52	2.22	361,047	.17	82.14	2.12	433,142	.49	86.79	4
2.05	31,028	.16	85.47	2.00	196,009	.88	87.79	35	2.12	49,165	.20	88.99	2.23	281,351	.13	83.49	2.13	313,058	.35	87.14	2
2.06	307,469	.08	87.10	2.01	241,448	1.02	88.81	36	2.13	118,092	.49	89.48	2.24	25,569	.12	83.61	2.14	796,320	.92	88.06	2
2.07	15,287	.06	87.18	2.02	7,743	.03	88.84	37	2.14	65,958	.87	89.47	2.25	99,209	.48	84.09	2.15	49,351	.05	88.11	1
2.08	199,255	.84	88.02	2.03	92,967	.32	89.23	38	2.15	18,155	.07	89.82	2.26	38,847	.38	84.47	2.16	500,035	.57	88.69	1
2.09	28,726	.12	88.18	2.04	282,563	1.24	90.47	39	2.16	155,049	.89	90.45	2.27	181,200	.87	85.34	2.17	1,477,851	.04	88.72	1
2.10	10,566	.05	88.28	2.05	334,812	1.41	91.88	40	2.17	11,858	.05	90.50	2.28	6,870	.09	85.37	2.18	1,477,851	.04	88.72	1
2.11	9,868	.06	88.28	2.06	241,448	.62	92.40	41	2.18	7,514	.13	90.83	2.29	236,204	1.13	86.50	2.19	137,253	.16	90.56	2
2.12	179,740	.90	89.30	2.07	122,031	.62	92.40	42	2.19	300,421	1.43	91.96	2.30	39,801	.19	86.69	2.20	964,703	1.08	91.64	2
2.13	178,740	.90	89.30	2.08	122,031	.62	92.40	43	2.20	11,858	.05	92.94	2.31	39,801	.19	86.69	2.21	964,703	1.08	91.64	2
2.14	220,611	.17	91.09	2.09	122,031	.62	92.40	44	2.21	300,421	1.43	91.96	2.32	39,801	.19	86.69	2.22	964,703	1.08	91.64	2
2.15	220,611	.17	91.09	2.10	122,031	.62	92.40	45	2.22	300,421	1.43	91.96	2.33	39,801	.19	86.69	2.23	964,703	1.08	91.64	2
2.16	220,611	.17	91.09	2.11	122,031	.62	92.40	46	2.23	300,421	1.43	91.96	2.34	39,801	.19	86.69	2.24	964,703	1.08	91.64	2
2.17	220,611	.17	91.09	2.12	122,031	.62	92.40	47	2.24	300,421	1.43	91.96	2.35	39,801	.19	86.69	2.25	964,703	1.08	91.64	2
2.18	220,611	.17	91.09	2.13	122,031	.62	92.40	48	2.25	300,421	1.43	91.96	2.36	39,801	.19	86.69	2.26	964,703	1.08	91.64	2
2.19	220,611	.17	91.09	2.14	122,031	.62	92.40	49	2.26	300,421	1.43	91.96	2.37	39,801	.19	86.69	2.27	964,703	1.08	91.64	2
2.20	220,611	.17	91.09	2.15	122,031	.62	92.40	50	2.27	300,421	1.43	91.96	2.38	39,801	.19	86.69	2.28	964,703	1.08	91.64	2
2.21	220,611	.17	91.09	2.16	122,031	.62	92.40	51	2.28	300,421	1.43	91.96	2.39	39,801	.19	86.69	2.29	964,703	1.08	91.64	2
2.22	220,611	.17	91.09	2.17	122,031	.62	92.40	52	2.29	300,421	1.43	91.96	2.40	39,801	.19	86.69	2.30	964,703	1.08	91.64	2
2.23	220,611	.17	91.09	2.18	122,031	.62	92.40	53	2.30	300,421	1.43	91.96	2.41	39,801	.19	86.69	2.31	964,703	1.08	91.64	2
2.24	220,611	.17	91.09	2.19	122,031	.62	92.40	54	2.31	300,421	1.43	91.96	2.42	39,801	.19	86.69	2.32	964,703	1.08	91.64	2
2.25	220,611	.17	91.09	2.20	122,031	.62	92.40	55	2.32	300,421	1.43	91.96	2.43	39,801	.19	86.69	2.33	964,703	1.08	91.64	2

TABLE 8.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918, for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.				
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.
\$2.26	88,331	0.04	91.13	1	\$2.22	481,090	2.03	95.54	2	\$2.24	30,095	0.12	93.10	2	\$2.43	224,107	1.08	91.27	3	\$2.28	81,403	0.08	92.79	1
2.28	24,562	.13	91.26	3	2.23	48,591	.21	95.75	1	2.25	10,220	.04	93.14	1	2.46	182,811	.87	92.14	1	2.29	264,373	.06	92.85	1
2.31	185,122	.98	92.24	1	2.24	37,889	.16	95.91	2	2.26	15,245	.06	93.20	1	2.47	50,178	.24	92.38	1	2.30	48,591	.30	93.15	2
2.32	27,411	.14	92.38	2	2.27	58,609	.25	96.16	1	2.27	90,781	.37	93.57	1	2.49	83,481	.41	92.79	1	2.31	62,262	.07	93.22	2
2.34	29,519	.16	92.54	1	2.28	13,403	.05	96.21	2	2.30	98,555	.41	93.98	2	2.51	24,800	.11	92.90	1	2.32	488,639	.56	93.78	1
2.35	375,803	1.99	94.53	1	2.29	12,734	.06	96.27	1	2.31	40,978	.16	94.14	1	2.52	4,898	.03	92.93	1	2.33	295,947	.34	94.12	1
2.36	31,194	.16	94.69	1	2.31	21,694	.09	96.36	1	2.32	21,249	.09	94.23	1	2.53	277,908	1.33	94.26	2	2.34	108,300	.12	94.24	1
2.37	14,378	.23	94.92	2	2.32	38,068	.16	96.52	2	2.33	412,307	1.68	95.91	2	2.55	24,519	.12	94.38	2	2.35	190,771	.21	94.45	3
2.38	28,548	.16	95.08	3	2.33	37,185	.16	96.68	1	2.35	58,449	1.16	96.07	1	2.58	298,255	1.43	95.81	2	2.37	84,180	.10	94.55	1
2.40	73,239	.38	95.46	1	2.37	340,747	1.43	95.11	3	2.38	500,483	2.04	95.11	3	2.62	19,704	.09	95.90	2	2.38	55,122	.07	94.62	2
2.41	9,670	.05	95.51	1	2.39	14,857	.07	95.18	2	2.39	137,623	.56	98.67	1	2.63	53,475	.26	96.16	1	2.39	226,933	.25	94.87	1
2.42	331,584	1.76	97.27	3	2.40	8,809	.03	95.21	1	2.41	28,372	.12	98.79	1	2.65	110,635	.53	96.69	1	2.41	28,103	.04	94.91	1
2.43	3,446	.01	97.28	1	2.41	6,235	.03	95.24	1	2.42	9,590	.04	98.83	1	2.66	19,824	.09	96.78	1	2.42	1,281,325	1.46	96.37	1
2.44	16,379	.09	97.37	3	2.42	11,264	.04	95.25	1	2.47	4,215	.02	98.85	1	2.67	52,387	.23	97.03	1	2.44	1,665,231	1.89	98.26	1
2.45	40,702	.22	97.50	1	2.43	20,932	.09	98.38	1	2.50	10,711	.04	98.89	1	2.68	67,141	.33	97.36	1	2.45	32,893	.03	98.29	1
2.46	13,844	.07	97.60	2	2.44	96,064	.40	98.78	3	2.54	14,023	.06	98.95	2	2.69	4,886	.02	97.38	1	2.46	346,501	.40	98.69	2
2.48	6,071	.03	97.69	1	2.45	58,886	.25	99.03	2	2.55	12,012	.05	99.00	1	2.71	5,718	.03	97.41	1	2.47	38,895	.05	98.74	1
2.49	5,191	.03	97.72	1	2.46	84,454	.36	99.39	1	2.56	7,694	.03	99.03	1	2.73	10,536	.05	97.46	2	2.48	33,987	.04	98.78	1
2.50	70,714	.37	98.09	3	2.50	11,465	.05	99.44	1	2.57	84,382	.11	99.48	1	2.74	8,367	.04	97.54	1	2.49	43,768	.05	98.83	1
2.51	7,616	.04	98.13	1	2.57	7,343	.03	99.47	1	2.65	26,017	.11	99.48	1	2.78	8,558	.04	97.54	1	2.50	40,257	.04	98.57	1
2.52	29,633	.16	98.29	1	2.58	7,913	.03	99.50	1	2.69	33,851	.14	99.62	1	2.83	8,145	.04	97.58	1	2.51	322,367	.37	99.24	1
2.53	19,723	.10	98.39	1	2.59	6,476	.03	99.53	1	2.70	18,922	.07	99.60	2	2.86	4,002	.02	97.60	1	2.52	97,899	.11	99.35	1
2.57	7,779	.04	98.43	1	2.63	35,036	.15	99.65	1	2.73	6,303	.03	99.72	1	2.90	29,046	.14	97.74	1	2.53	36,384	.04	99.30	1
2.59	8,622	.05	98.48	1	2.66	5,579	.02	99.70	1	2.78	6,246	.02	99.74	1	2.92	332,359	1.09	99.43	1	2.56	13,929	.02	99.41	1
2.60	32,042	.17	98.65	1	2.71	9,425	.04	99.74	1	2.79	4,797	.02	99.76	1	2.93	11,793	.05	99.48	1	2.59	27,231	.03	99.44	1

2.61	24,718	18	98.83	2.74	4,276	.02	98.76	2.81	26,876	.11	98.87	2.96	37,679	.18	98.98	27,097	.02	98.48	1
2.63	81,632	43	98.96	2.75	4,612	.02	98.78	2.93	11,842	.05	98.92	2.99	10,539	.08	98.71	41,141	.04	98.62	1
2.69	5,135	.05	98.31	2.76	7,412	.03	98.81	3.15	5,512	.02	98.94	3.10	7,913	.04	98.75	135,357	.14	98.66	1
2.69	17,144	.09	98.40	2.87	30,622	.13	98.94	3.21	6,752	.03	98.97	3.17	6,849	.03	98.78	35,543	.04	98.70	1
2.78	6,685	.04	98.44	2.88	10,022	.04	98.98	3.78	4,539	.02	98.99	3.42	8,206	.04	98.83	19,032	.02	98.72	1
2.79	3,557	.01	98.45	3.23	2,210	.01	98.99	4.22	2,976	.01	100.00	3.44	4,773	.03	98.85	17,002	.02	98.74	1
2.86	10,022	.04	98.51	4.86	2,418	.01	100.00					3.46	15,146	.07	98.92	22,277	.02	98.73	1
2.88	6,065	.03	98.54									3.47	3,236	.01	98.93	49,559	.04	98.83	1
2.91	4,539	.02	98.56									3.65	5,297	.03	98.96	69,194	.11	98.98	1
2.92	23,404	.17	98.73									3.68	5,406	.03	98.99	27,350	.03	98.98	1
2.97	4,705	.03	98.76									4.34	557	.00	98.99	16,765	.02	98.98	1
2.95	5,219	.02	98.79									4.72	2,368	.01	100.00	14,090	.02	100.00	1
3.08	5,201	.02	98.81																
3.15	9,119	.06	98.86																
3.36	1,823	.01	98.87																
3.45	6,225	.03	98.90																
4.10	16,196	.09	98.99																
4.67	1,836	.01	100.00																
1.9519,228,946	100.00	100.00	100.00	1.83	23,675,600	100.00	100.00	1.87	24,502,431	100.00	100.00	2.06	20,558,159	100.00	100.00	1.92	87,905,186	100.00	199

TABLE 9.—Total sales realization, by quarterly and yearly periods for 1918, for 178 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton by \$0.01 group-ing.	Sales tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies.	Num-ber of group-ing.	Per ton by \$0.01 group-ing.	Sales tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies.	Num-ber of group-ing.	Per ton by \$0.01 group-ing.	Sales tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies.	Num-ber of group-ing.	Per ton by \$0.01 group-ing.	Sales tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies.	Num-ber of group-ing.	Per ton by \$0.01 group-ing.	Sales tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies.	Num-ber of group-ing.
\$1.56	9,549	0.07	0.07	1	1	\$1.67	101,051	0.65	0.65	1	1	\$1.70	125,548	0.73	0.73	2	2	\$1.53	214	0.03	0.03	1	1	\$1.95	54,299	0.09	0.09	1	1
1.60	96,352	.74	.81	1	1	1.68	12,898	.08	.73	1	1	1.74	58,207	.33	1.06	2	2	1.59	123,337	0.53	0.53	1	1	1.77	495,908	.67	.76	1	1
1.85	31,440	.09	.90	1	1	1.71	42,855	.28	1.01	1	1	1.87	37,602	.22	1.28	1	1	1.65	14,940	.10	.93	1	1	1.83	141,878	.23	1.18	1	1
1.94	23,953	.19	1.09	1	1	1.80	30,146	.19	1.20	1	1	1.89	1,137,378	6.54	7.82	1	1	1.71	11,273	.08	1.01	1	1	1.87	113,694	.19	1.18	1	1
2.02	347,007	2.68	3.77	1	1	1.99	603,189	3.86	5.06	2	2	2.00	6,150	.04	7.86	1	1	1.75	14,229	.10	1.11	1	1	1.95	3,597,652	5.88	7.06	1	1
2.03	14,685	.11	3.88	1	1	2.15	8,432	.06	5.12	1	1	2.02	232	.01	7.86	1	1	1.85	2,363	.01	1.12	1	1	2.03	1,855	.00	7.06	1	1
2.11	36,127	.25	4.16	1	1	2.10	60,032	.39	5.51	2	2	2.13	7,911	.04	7.90	1	1	1.87	24,406	.23	1.35	1	1	2.17	64,741	.11	7.17	1	1
2.13	1,167	.01	4.17	1	1	2.17	18,025	.12	5.63	1	1	2.18	13,841	.05	7.98	1	1	1.96	1,830,120	10.03	11.38	1	1	2.18	192,580	.22	7.49	1	1
2.23	3,219	.02	4.19	1	1	2.22	6,942	.04	5.67	1	1	2.19	19,204	.11	8.09	1	1	1.99	84,849	.24	11.62	1	1	2.20	294,713	.03	7.57	1	1
2.22	3,917	.03	4.22	1	1	2.24	10,708	.07	5.74	1	1	2.20	58,320	.33	8.42	1	1	2.04	95,867	.06	12.36	1	1	2.23	19,710	.03	7.57	1	1
2.25	62,719	.48	4.70	1	1	2.25	163,043	1.05	6.79	2	2	2.21	10,230	.06	8.48	1	1	2.08	13,834	.06	12.39	2	2	2.26	49,368	.08	7.65	1	1
2.28	233,205	1.96	6.66	3	3	2.27	14,026	.09	6.88	1	1	2.22	29,804	.16	8.47	1	1	2.15	2,349	.02	12.41	1	1	2.30	126,553	.20	7.85	2	2
2.30	22,692	.17	6.83	1	1	2.30	33,292	.09	7.00	2	2	2.24	8,620	.05	8.72	1	1	2.20	13,648	.06	12.50	1	1	2.31	48,741	.14	7.99	2	2
2.37	751	.04	6.87	1	1	2.31	324,037	2.64	9.17	3	3	2.26	2,467	.01	8.73	1	1	2.21	73,839	.09	12.90	2	2	2.33	422,626	.70	8.69	4	4
2.40	16,150	.12	6.99	2	2	2.33	51,992	.34	9.51	3	3	2.27	21,222	.12	8.85	2	2	2.23	12,717	.06	13.08	1	1	2.36	504,220	.83	9.62	1	1
2.41	10,153	.08	7.07	1	1	2.34	105,912	.68	10.19	1	1	2.28	7,603	.04	8.89	1	1	2.24	8,981	.06	13.14	2	2	2.37	478,460	.78	10.30	3	3
2.42	208,366	1.61	8.68	1	1	2.35	70,522	.45	10.64	2	2	2.30	209,292	.91	10.09	2	2	2.25	33,699	.23	13.37	1	1	2.38	581,211	.95	11.25	4	4
2.43	73,551	.57	9.25	1	1	2.36	34,807	.23	10.86	2	2	2.30	136,197	.79	10.88	4	4	2.26	2,078	.01	13.38	1	1	2.39	908,267	1.47	12.72	11	11
2.44	67,670	.67	9.92	2	2	2.37	469,130	2.22	13.08	3	3	2.31	52,846	.27	11.64	3	3	2.29	29,660	.04	14.42	2	2	2.40	347,325	.57	13.29	6	6
2.45	98,008	.76	10.68	13	13	2.38	42,463	.27	13.35	2	2	2.32	83,474	.49	11.67	3	3	2.29	229,550	.84	14.49	2	2	2.41	838,678	2.42	37.71	5	5
2.46	20,801	.16	10.84	2	2	2.39	39,295	.26	13.61	4	4	2.33	46,461	.27	11.91	2	2	2.30	43,825	.30	14.72	2	2	2.42	480,469	.80	38.51	5	5
2.47	56,922	.44	11.28	3	3	2.40	254,401	1.64	13.75	7	7	2.34	167,785	.96	12.87	5	5	2.31	64,042	.43	15.16	3	3	2.43	940,408	1.55	40.06	2	2
2.48	49,321	.38	11.66	1	1	2.41	394,553	2.50	13.75	16	16	2.35	471,351	2.61	15.53	22	22	2.32	82,612	.57	15.72	4	4	2.44	111,094	.18	40.24	2	2
2.50	17,636	.14	11.80	2	2	2.42	41,010	.26	16.01	4	4	2.36	110,420	.69	16.16	4	4	2.33	139,878	.94	16.60	4	4	2.46	541,603	.91	41.15	5	5
2.51	107,632	.82	12.62	2	2	2.43	209,002	1.32	16.45	7	7	2.37	83,799	.49	16.65	2	2	2.34	199,885	1.36	18.02	5	5	2.47	12,776	.02	41.17	1	1

2.53	734,876	6.58	18.20	3.04	42.37	2.44	475,204	1.1	2.38	154,211	.80	17.54	2.1	2.35	421,061	23.19	41.21	2.48	153,910	.25	41.42	3
2.53	67,937	.62	18.72	.39	42.76	2.45	60,218	1	2.39	4,437,036	25.48	42.97	3	2.36	37,019	.24	41.45	2.49	13,920	.02	41.44	1
2.54	6,226	.05	18.77	.25	43.01	2.46	39,678	1	2.40	244,445	1.40	44.37	4	2.37	106,810	.73	42.18	2	42,131	.07	41.51	2
2.54	3,200,576	24.07	43.44	1.27	44.28	2.47	197,188	4	2.41	55,156	.33	44.70	4	2.38	123,898	1.83	42.03	5	1,143,652	1.88	43.39	4
2.56	694,768	4.78	45.17	1.33	45.61	2.49	206,421	1	2.42	22,386	.13	44.83	2	2.40	270,289	1.83	44.86	2	76,368	.13	43.52	1
2.57	374,227	2.05	50.22	1.24	52.85	2.50	130,510	10	2.43	163,917	1.70	45.93	3	2.41	516,585	3.80	48.36	3	4,472,691	7.38	50.90	8
2.57	6,902	.07	50.34	1.93	54.78	2.51	305,773	6	2.44	90,094	.29	46.22	3	2.42	572,682	.86	49.22	3	5,497,248	9.06	59.96	8
2.59	8,682	.07	50.34	1.43	56.21	2.52	224,013	4	2.45	242,713	1.13	53.35	5	2.43	120,081	.81	50.03	5	4,508,550	7.41	67.37	6
2.62	41,688	3.07	50.66	1.28	57.49	2.54	193,320	2	2.46	898,406	5.17	58.52	5	2.47	384,811	2.87	64.20	7	128,213	.22	67.59	3
2.66	300,131	2.32	52.98	1.72	55.21	2.55	1,205,745	4	2.47	180,066	1.02	59.54	6	2.46	369,877	2.72	55.43	3	1,405,597	2.32	66.91	3
2.64	812,053	6.27	59.25	13.16	78.37	2.56	684,580	4	2.48	51,323	.30	59.84	2	2.47	91,314	.62	56.05	3	618,492	1.02	70.98	3
2.66	95,968	.37	59.98	1.06	78.43	2.57	6,648	3	2.49	265,579	1.31	59.18	4	2.46	461,875	3.13	59.18	4	1,336,418	2.19	73.12	3
2.66	134,016	1.03	61.01	2.18	80.61	2.58	840,011	1	2.50	187,415	1.10	62.41	3	2.48	301,933	2.07	61.23	4	2,526,131	4.15	77.27	2
2.69	83,028	.89	61.70	3.21	83.82	2.59	500,786	3	2.51	935,588	5.37	67.78	6	2.49	438,313	2.87	64.20	7	2,223,429	.38	77.63	1
2.69	9,668	.07	61.77	.33	84.15	2.61	51,198	2	2.52	984,040	6.62	73.40	6	2.50	138,541	.96	65.15	5	1,664,621	2.76	80.38	3
2.70	94,428	.72	62.49	2.31	86.46	2.62	362,911	1	2.53	1,504,201	9.16	82.56	6	2.52	410,075	16.35	81.50	10	2,663,864	4.39	84.77	4
2.72	164,746	1.19	63.68	.63	86.56	2.63	6,360	1	2.54	1,099,027	6.31	88.87	5	2.52	443,068	2.99	84.50	7	11,719	.02	84.79	1
2.73	25,328	.20	63.98	.06	86.56	2.64	9,066	1	2.55	111,326	.64	86.51	3	2.53	367,924	2.48	86.97	6	511,337	.83	86.62	3
2.74	24,463	.22	64.11	.35	86.91	2.65	54,920	3	2.56	17,888	.10	86.61	1	2.54	815,617	6.53	92.50	3	1,867,613	2.78	88.40	2
2.76	24,463	.18	64.29	.41	91.32	2.66	687,347	2	2.58	375,069	2.15	91.76	1	2.56	383,566	.22	92.72	2	328,963	.56	88.90	3
2.78	35,972	.28	64.57	.17	91.49	2.68	28,328	1	2.69	117,735	.68	92.44	2	2.57	341,371	2.32	95.04	2	274,757	.45	89.40	3
2.80	17,358	.10	64.67	.02	91.51	2.69	2,338	1	2.70	280,794	1.61	94.06	3	2.58	186,047	.03	96.07	1	36,933	.06	89.40	3
2.80	6,187	.06	64.71	.06	91.56	2.70	7,748	1	2.71	5,850	.03	94.08	1	2.59	6,668	.04	96.11	1	549,898	.91	91.81	3
2.82	12,232	.08	64.83	.20	91.76	2.72	20,730	1	2.72	231,869	1.34	95.42	2	2.60	3,570	.02	96.13	1	873,732	1.44	91.81	3
2.84	26,863	.30	72.08	.15	91.91	2.73	23,968	2	2.73	84,363	.45	95.90	1	2.62	74,900	.51	96.64	1	84,526	.14	91.86	1
2.86	16,400	.13	72.16	.63	92.54	2.74	98,820	2	2.74	113,406	.65	96.55	1	2.63	3,392	.02	95.69	1	88,448	.15	92.10	1
2.87	15,198	.10	72.26	.23	92.74	2.75	30,463	1	2.75	53,773	.33	96.98	2	2.64	164,068	.43	97.40	1	390,418	.45	92.71	1
2.87	1,828	.08	72.31	.11	92.84	2.76	70,220	1	2.76	67,508	.04	97.33	1	2.65	64,108	.00	97.40	1	583,391	.93	92.71	2
2.89	1,828	.11	72.32	.02	94.17	2.77	143,770	2	2.77	2,197	.01	97.34	1	2.70	87,046	.59	97.99	1	238,170	.39	94.19	1
2.90	224,541	1.73	74.06	.82	94.99	2.78	128,119	3	2.78	2,197	.01	97.34	1	2.79	87,046	.59	97.99	1	19,008	.08	94.19	1
2.91	345,754	2.58	75.63	.04	95.03	2.79	6,235	3	2.79	26,576	.15	97.49	1	2.80	68,434	.46	98.45	1	97,909	.16	94.20	1
2.92	306,866	2.37	75.00	.11	95.14	2.80	9,268	1	2.80	9,268	.05	97.54	1	2.81	8,120	.08	98.45	1	218,820	.39	94.95	1
2.93	126,664	.68	75.98	.54	96.68	2.81	84,940	2	2.81	27,348	.16	97.70	1	2.82	16,720	.11	98.45	1	190,462	.32	94.97	2
2.96	61,570	.21	83.88	.15	98.83	2.82	12,830	2	2.82	12,830	.07	97.77	2	2.83	4,320	.08	98.45	1	186,546	.32	94.97	2
2.97	332,534	2.64	83.68	.37	97.20	2.83	55,751	3	2.83	55,751	.51	98.28	2	2.84	4,022	.03	98.68	1	471,602	.78	98.06	1
2.98	1,705	.01	83.89	.16	97.26	2.84	24,957	2	2.84	24,957	.08	98.69	1	2.85	24,900	.17	98.68	1	674,294	1.10	97.16	1
2.99	80,535	.82	84.51	.11	97.40	2.85	15,742	1	2.85	41,018	.23	98.51	1	2.86	3,400	.03	98.88	1	28,786	.04	97.20	1
3.02	2,360	.02	84.53	.14	97.60	2.86	22,087	1	2.86	22,087	.12	98.53	1	2.87	34,602	.23	99.11	1	28,786	.04	97.20	1
3.03	169,060	.33	85.83	.34	97.84	2.87	4,045	1	2.87	18,010	.13	99.23	1	2.88	18,010	.07	99.23	1	41,474	.07	97.27	1
3.05	5,533	.04	85.87	.04	97.68	2.88	2,768	1	2.88	2,768	.02	98.69	1	2.89	9,862	.07	99.30	1	2,925	.53	768	2
3.06	83,118	.41	86.28	.04	98.02	2.89	6,688	2	2.89	41,018	.23	98.51	1	2.90	24,900	.17	98.68	1	674,294	1.10	97.16	1
3.06	7,500	.06	86.66	.04	98.27	2.90	32,758	1	2.90	32,758	.08	98.74	1	2.91	3,400	.03	98.88	1	28,786	.04	97.20	1
3.09	8,206	.06	86.72	.04	98.79	2.91	8,120	1	2.91	8,120	.16	98.92	1	2.92	34,602	.23	99.11	1	41,474	.07	97.27	1
3.12	16,860	.13	86.85	.06	98.87	2.92	73,108	1	2.92	73,108	.42	99.24	1	2.93	18,010	.07	99.23	1	2,925	.53	768	2
3.12	16,860	.13	86.85	.06	98.87	2.93	13,226	2	2.93	13,226	.10	99.24	1	2.94	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.94	15,977	1	2.94	15,977	.10	99.24	1	2.95	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.95	15,977	1	2.95	15,977	.10	99.24	1	2.96	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.96	15,977	1	2.96	15,977	.10	99.24	1	2.97	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.97	15,977	1	2.97	15,977	.10	99.24	1	2.98	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.98	15,977	1	2.98	15,977	.10	99.24	1	2.99	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	2.99	15,977	1	2.99	15,977	.10	99.24	1	3.00	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.00	15,977	1	3.00	15,977	.10	99.24	1	3.01	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.01	15,977	1	3.01	15,977	.10	99.24	1	3.02	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.02	15,977	1	3.02	15,977	.10	99.24	1	3.03	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.03	15,977	1	3.03	15,977	.10	99.24	1	3.04	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.04	15,977	1	3.04	15,977	.10	99.24	1	3.05	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.05	15,977	1	3.05	15,977	.10	99.24	1	3.06	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.06	15,977	1	3.06	15,977	.10	99.24	1	3.07	9,862	.07	99.30	1	674,294	1.10	97.16	1
3.12	16,860	.13	86.85	.06	98.87	3.07	15,9															

TABLE 11.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

Labor cost.					Supply cost.					General expenses.					Total f. o. b. mine cost.				
Per ton cost by \$0.01 group-ing.	Production (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group-ing.
\$0.51	66,636	0.07	0.07	1	\$0.00	110,312	0.13	0.13	1	\$0.04	55,153	0.06	0.06	1	\$0.92	66,636	0.07	0.07	1
.60	66,368	.07	.14	1	.05	28,976	.08	.16	1	.11	54,295	.01	.07	1	1.30	284,910	.33	.33	1
.73	80,548	.09	.23	1	.07	32,947	.04	.20	1	.14	284,733	.32	.45	2	1.40	282,574	.31	.70	1
.74	68,308	.08	.31	1	.08	26,842	.03	.23	2	.17	214,424	.24	.69	1	1.44	28,724	.03	.73	1
.76	106,555	.12	.43	1	.09	167,936	.19	.42	4						1.46	9,467	.01	.74	1
.82	282,574	.31	.74	1	.12	203,061	.22	.64	4	.18	1,138,093	1.29	1.96	2	1.49	80,548	.09	.83	1
.86	28,724	.08	.77	1	.13	188,012	.20	.84	4	.19	99,651	.11	2.09	1	1.52	68,308	.08	.91	1
.88	284,910	.32	1.09	1	.14	179,978	.21	1.05	4	.20	417,873	.46	2.55	1	1.56	290,577	.30	1.21	2
.92	67,570	.07	1.16	1	.15	698,485	.66	2.17	4	.21	4,135,760	4.60	7.15	4	1.57	43,368	.07	1.28	1
.93	156,568	.17	1.33	1	.16	402,704	.46	2.17	4	.22	12,060	.01	7.16	1	1.58	406,263	.45	1.73	2
.97	163,964	.18	1.51	1	.17	33,049	.04	2.21	1	.23	17,308,273	19.24	26.40	2	1.59	164,744	.19	1.92	1
1.00	33,113	.04	1.55	1	.18	591,923	.67	2.88	3	.24	845,859	8.29	34.79	3	1.61	106,555	.12	2.04	1
1.01	401,723	.24	1.59	3	.19	145,760	.17	3.03	2	.25	1,347,814	1.30	36.29	3	1.64	1,202,991	1.33	2.37	1
1.02	450,763	.28	2.39	3	.20	520,395	.57	3.60	2	.26	1,171,456	1.32	38.59	6	1.66	23,536	.08	3.40	1
1.03	75,513	.08	2.47	1	.21	731,549	.51	4.41	3	.27	1,196,249	1.22	39.81	1	1.71	735,197	.82	4.22	2
1.04	258,261	.28	2.75	2	.22	3,304,606	3.66	8.07	5	.28	2,992,909	3.33	33.14	3	1.72	417,873	.46	4.68	1
1.06	258,243	.28	3.03	4	.23	885,257	.96	9.03	7	.29	98,339	3.10	35.24	2	1.74	678,095	.76	5.43	3
1.07	521,553	.58	3.61	1	.24	2,369,722	2.62	11.65	7	.30	3,475,647	3.86	37.10	2	1.75	926,574	1.03	6.46	1
1.08	1,242,176	1.37	4.98	2	.25	1,519,054	1.69	13.34	5	.31	3,570,027	1.08	38.18	3	1.76	217,544	.24	6.70	3
1.09	340,079	.40	5.38	5	.26	1,207,110	1.33	14.67	5	.32	3,570,142	3.95	42.13	6	1.77	19,932,343	22.13	28.88	3
1.10	66,355	.08	5.46	2	.27	1,015,130	1.14	15.81	3	.33	3,351,782	3.73	45.86	4	1.79	317,052	.35	29.23	2
1.11	163,227	.18	5.64	1	.28	3,699,836	4.12	19.93	6	.34	14,859,840	16.50	62.36	3	1.81	890,641	.90	30.13	3
1.12	631,508	.71	6.35	3	.29	17,674,410	19.63	39.56	10	.35	1,774,621	1.96	64.32	3	1.82	126,051	.14	30.27	1
1.13	120,172	.13	6.48	3	.30	1,082,263	1.20	40.76	3	.36	5,033,065	5.59	69.91	6	1.83	4,478,926	4.68	35.29	4
1.14	962,964	1.08	7.56	3	.31	5,346,475	5.95	46.71	8	.37	1,706,060	1.90	71.81	6	1.84	33,418	.04	35.29	1

The 90 per cent of the output shown in the foregoing table includes certain costs which are abnormally low, either through the failure of the operator to return his costs separately under the specified headings, or through his failure to include all of them in his return. An inspection of Diagrams 1 and 2 (opposite p. 28 and p. 34) shows that such abnormally low costs apply to about 5 per cent of the production. If 90 per cent of the output be selected by excluding the lowest 5 per cent and the highest 5 per cent, it will be found that the averages shown for each quarter correspond closely to the halfway points between the high and low range of this 90 per cent of the output, but are much below the halfway point between the high and low ranges for the total output. This is because of the relatively high costs of a small fraction of the total output.

It is obvious in price fixing that while it might be possible to fix a uniform price for the field which would allow a profitable return on 90 per cent of its production, a price which would permit of a profitable return on every part of the entire output of the field would be very burdensome on the consuming public as well as return excessive profits to the producers of 90 per cent of the tonnage from the field.

5. *Comparison of "Claimed" and "Revised" costs.*—The foregoing tables present costs which have in some cases been "Revised," by the accountants of the Commission, from the "Claimed" figures reported on the original schedules by the operators. The following table shows the "Claimed" 1918 costs, compiled in all cases directly from the figures submitted by the operators.

TABLE 11.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

Labor cost.				Supply cost.				General expenses.				Total f. o. b. mine cost.			
Per ton cost by \$0.01 group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num- ber of com- panies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num- ber of com- panies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num- ber of com- panies by \$0.01 group- ing.	
\$0.51	66,626	0.07	0.07	1	\$0.00	110,312	0.13	0.13	1	\$0.04	55,153	0.06	0.06	1	
.60	65,368	.07	.14	1	.05	28,976	.08	.16	1	.05	9,467	.01	.07	1	
.70	80,548	.09	.23	1	.07	32,947	.04	.20	1	.11	64,295	.06	.13	2	
.74	68,308	.08	.31	1	.08	26,842	.03	.23	2	.14	284,783	.32	.45	1	
.76	106,555	.12	.43	1	.09	167,895	.19	.42	4	.17	214,424	.24	.69	1	
.82	282,574	.31	.74	1	.12	203,061	.22	.64	4	.18	1,158,063	1.29	1.98	2	
.86	28,724	.08	.77	1	.13	188,012	.20	.84	4	.19	99,651	.11	2.09	1	
.88	284,910	.32	1.09	1	.14	176,978	.21	1.05	4	.20	417,873	.46	2.55	1	
.92	67,570	.07	1.16	1	.15	598,485	.66	1.71	5	.21	4,135,780	4.60	7.15	4	
.93	156,568	.17	1.33	1	.16	402,704	.46	2.17	4	.22	12,060	.01	7.16	1	
.97	163,964	.18	1.51	1	.17	33,049	.04	2.21	1	.23	17,398,273	19.24	26.40	2	
1.00	33,418	.04	1.55	1	.18	591,923	.67	2.88	3	.24	345,969	.39	26.79	3	
1.01	301,732	.34	1.89	3	.19	145,760	.15	3.03	3	.25	1,347,814	1.50	28.29	3	
1.02	450,763	.50	2.39	1	.20	520,395	.57	3.60	5	.26	1,171,456	1.30	29.59	6	
1.03	75,513	.08	2.47	1	.21	731,549	.81	4.41	5	.27	196,549	.22	29.81	1	
1.04	258,261	.28	2.75	2	.22	3,304,606	3.66	8.07	5	.28	2,992,909	3.33	33.14	3	
1.06	253,243	.25	3.03	4	.23	868,327	.96	9.03	7	.29	96,339	.28	33.24	2	
1.07	621,553	.65	3.61	1	.24	2,866,722	2.62	11.65	7	.30	3,475,647	3.86	37.10	2	
1.08	1,242,176	1.37	4.98	2	.25	1,519,054	1.69	13.34	5	.31	970,027	1.08	38.13	3	
1.09	340,079	.40	5.38	5	.26	1,207,110	1.33	14.67	5	.32	3,570,142	3.95	42.13	6	
1.10	66,355	.08	5.46	2	.27	1,015,130	1.14	15.81	3	.33	3,351,792	3.73	45.86	4	
1.11	163,276	.13	5.64	2	.28	3,699,636	4.12	18.93	16	.34	14,869,640	16.50	49.36	3	
1.12	631,508	.71	6.35	3	.29	17,674,410	19.63	30.84	9	.35	1,000,611	1.80	50.17	3	
1.13	120,172	.13	6.48	3	.30	1,062,293	1.26	40.76	2	.36	5,073,681	5.56	69.91	6	
1.14	962,864	1.08	7.56	3	.31	5,346,473	5.93	46.71	8	.37	1,706,060	1.90	71.81	6	

1.15	2,946,865	3.28	10.84	3	33	20,945,521	28.28	69.99	9	38	2,166,187	2.42	74.23	5	1.87	422,686	.47	35.76	3
1.16	418,610	.47	11.31	3	39	1,166,220	1.29	71.28	6	39	389,989	.43	74.66	5	1.88	279,113	.31	36.07	4
1.17	676,488	.75	12.06	4	40	1,806,069	2.11	72.39	7	40	3,476,704	3.88	78.54	6	1.89	2,413,941	2.68	38.77	2
1.18	908,712	.86	12.62	4	41	908,029	1.00	74.39	7	41	1,012,783	1.13	79.67	5	1.90	3,618,318	4.02	42.77	2
1.19	718,999	.80	13.42	2	42	2,369,402	2.62	77.01	6	42	1,666,133	1.75	81.42	4	1.91	154,572	.17	42.94	3
1.20	115,685	.13	13.55	2	43	1,758,940	1.95	78.96	4	43	1,413,162	1.57	82.99	5	1.92	2,555,518	2.94	45.79	3
1.21	302,707	.33	13.88	3	44	2,016,275	2.24	81.20	4	44	444,245	.49	83.48	3	1.93	1,426,671	1.89	47.37	2
1.22	18,946,704	21.08	34.94	6	45	4,167,195	4.63	85.83	3	45	262,991	.29	83.77	2	1.94	25,365	.08	47.40	1
1.23	6,244,065	6.83	40.77	4	46	1,299,524	1.45	87.26	3	46	1,626,774	1.81	86.58	3	1.95	64,609	.06	47.46	1
1.24	8,730,515	4.14	44.91	5	47	1,815,685	2.01	89.29	3	47	78,968	.08	86.86	2	1.96	319,066	.36	47.82	1
1.25	2,558,267	2.95	47.96	3	48	408,032	.46	89.75	2	48	844,533	.94	86.60	4	1.97	944,530	1.05	48.87	3
1.26	3,232,086	3.30	51.36	2	49	335,161	.27	90.12	3	49	1,199,177	1.33	87.93	6	1.98	699,956	.74	49.61	2
1.27	515,895	.90	52.46	2	50	1,319,133	1.47	91.09	9	50	84,684	.10	88.05	6	1.99	16,384,833	18.21	67.82	6
1.28	700,067	.78	53.74	3	51	727,866	.82	92.41	9	51	122,923	.14	88.17	2	2.00	413,363	.49	68.25	5
1.29	928,137	1.03	54.27	5	52	2,074,216	2.51	94.72	2	52	350,467	.13	88.59	2	2.01	215,820	.24	68.52	1
1.30	973,099	1.08	55.26	4	53	244,023	.27	94.90	3	53	1,015,251	1.12	89.71	4	2.02	928,708	.38	68.88	1
1.31	784,150	.79	55.63	5	54	260,059	.29	95.25	3	54	1,175,766	.70	89.11	1	2.03	510,547	.87	69.45	4
1.32	1,682,949	1.38	57.53	4	55	912,486	.97	96.57	2	55	86,610	.10	90.02	1	2.04	746,371	.83	70.28	4
1.33	2,386,972	2.15	60.63	7	56	245,489	.87	96.74	2	56	611,094	.68	90.13	1	2.05	1,481,323	1.65	71.63	3
1.34	2,008,194	2.22	62.90	5	57	1,486,009	1.67	97.31	4	57	378,247	.41	90.30	2	2.06	419,827	.46	72.26	2
1.35	2,151,083	2.40	65.20	5	58	198,171	.21	98.12	2	58	378,247	.41	91.21	5	2.07	1,916,116	2.13	74.82	4
1.36	14,682,333	15.54	81.84	6	59	381,471	.43	98.15	2	59	190,530	.31	91.42	2	2.08	828,982	.92	75.44	1
1.37	400,620	.46	82.30	2	60	107,193	.12	98.47	1	60	288,712	.31	91.73	5	2.09	353,211	.40	75.84	2
1.38	3,683,045	4.10	86.40	5	61	14,263	.01	98.68	1	61	82,743	.54	91.77	4	2.10	77,583	.08	75.92	1
1.39	229,243	.26	86.65	1	62	785,633	.88	99.58	1	62	252,084	.28	92.05	4	2.11	2,175,846	2.42	78.24	5
1.40	17,073	.02	86.63	1	63	130,442	.15	99.71	1	63	1,198,134	1.34	93.29	3	2.12	42,594	.05	78.39	1
1.41	55,481	.06	86.74	2	64	37,494	.04	99.75	1	64	383,715	.40	93.70	3	2.13	1,792,074	1.99	80.38	4
1.42	25,796	.08	86.77	2	65	45,871	.05	99.80	1	65	117,288	.13	93.92	4	2.14	215,237	.24	80.62	2
1.43	791,637	.88	87.65	3	66	25,707	.03	99.83	1	66	70,660	.06	94.00	2	2.15	938,989	1.00	81.62	3
1.45	63,474	.07	87.72	2	67	53,847	.06	99.89	1	67	65,386	.07	94.07	1	2.16	494,269	.52	82.14	2
1.46	1,405,478	1.56	88.28	5	68	98,194	.11	100.00	1	68	70,766	.06	94.15	3	2.17	332,572	.37	82.51	1
1.47	511,336	.17	88.85	3	69					69	22,352	.03	94.18	2	2.18	120,046	.13	82.64	3
1.48	1,988,708	2.17	92.02	3	70					70	163,237	.18	94.36	1	2.19	158,551	.18	82.82	1
1.49	460,812	.51	92.53	3	71					71	249,536	.27	94.63	2	2.20	822,035	.91	83.73	1
1.50	52,716	.06	92.59	2	72					72	96,860	.11	94.74	3	2.21	32,947	.04	83.77	1
1.51	20,818	.02	92.61	1	73					73	611,376	.68	95.42	3	2.22	544,104	.60	84.37	2
1.52	40,297	.04	92.65	1	74					74	163,006	.05	96.07	2	2.23	675,827	.76	85.13	2
1.53	156,219	.13	92.83	1	75					75	159,568	.17	96.24	2	2.24	793,658	.88	86.01	2
1.55	37,494	.03	92.87	1	76					76	101,752	.11	96.45	2	2.25	149,218	.16	86.17	2
1.56	2,272,635	2.53	95.40	4	77					77	1,156,534	1.29	97.64	2	2.26	1,262,264	1.41	87.58	5
1.58	33,827	.08	95.43	1	78					78	370,015	.42	98.06	2	2.29	120,832	.13	87.71	1
1.59	134,788	.15	95.58	1	79					79	125,961	.13	98.19	2	2.30	551,266	.61	88.32	4
1.60	101,238	.11	95.69	2	80					80	75,569	.08	98.27	3	2.31	898,738	.45	88.77	2
1.61	284,733	.32	96.01	1	81					81	163,964	.18	98.45	2	2.32	24,741	.02	88.79	1
1.62	317,740	.35	96.36	1	82					82	197,346	.22	98.67	1	2.33	35,023	.04	88.83	1

A comparison of the "Claimed" costs with the "Revised" is shown in graphic form on Diagram 2 (opposite). The changes brought about through the revision in the average costs for the year 1918 for the 199 operators are as follows:

Items.	"Claimed" costs.	"Revised" costs.	Increase (I) or decrease (D) due to revision.
Production tonnage..... tons..	89,979.362	87,963.186	¹ 2,016.176(D)
Labor..... per ton..	\$1.30	\$1.33	\$0.03(I)
Supplies..... do.....	\$0.32	\$0.29	\$0.03(D)
General expense..... do.....	\$0.37	\$0.30	\$0.07(D)
Total f. o. b. mine..... do.....	\$1.99	\$1.92	\$0.07(D)

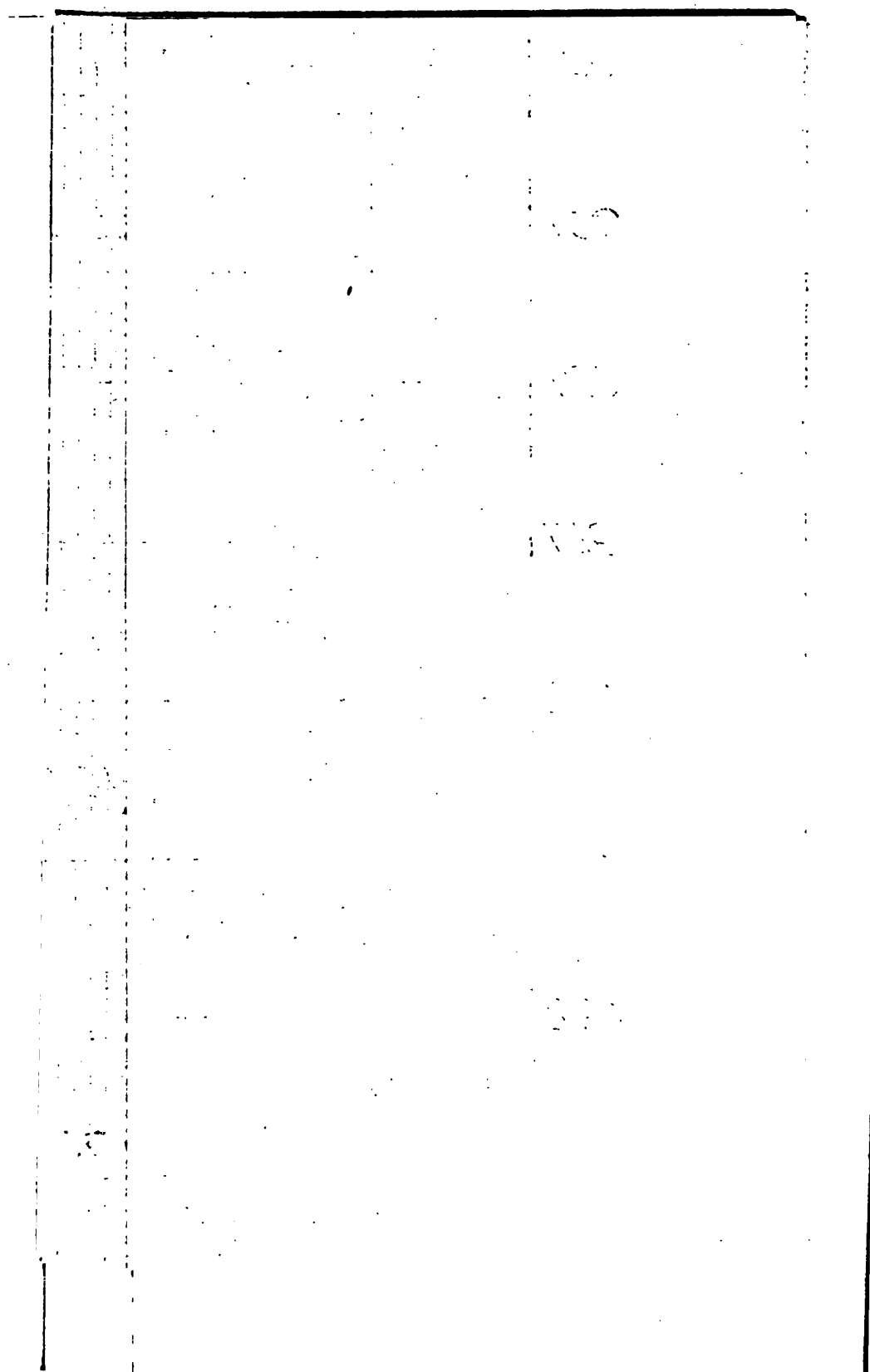
¹ Power-house fuel.

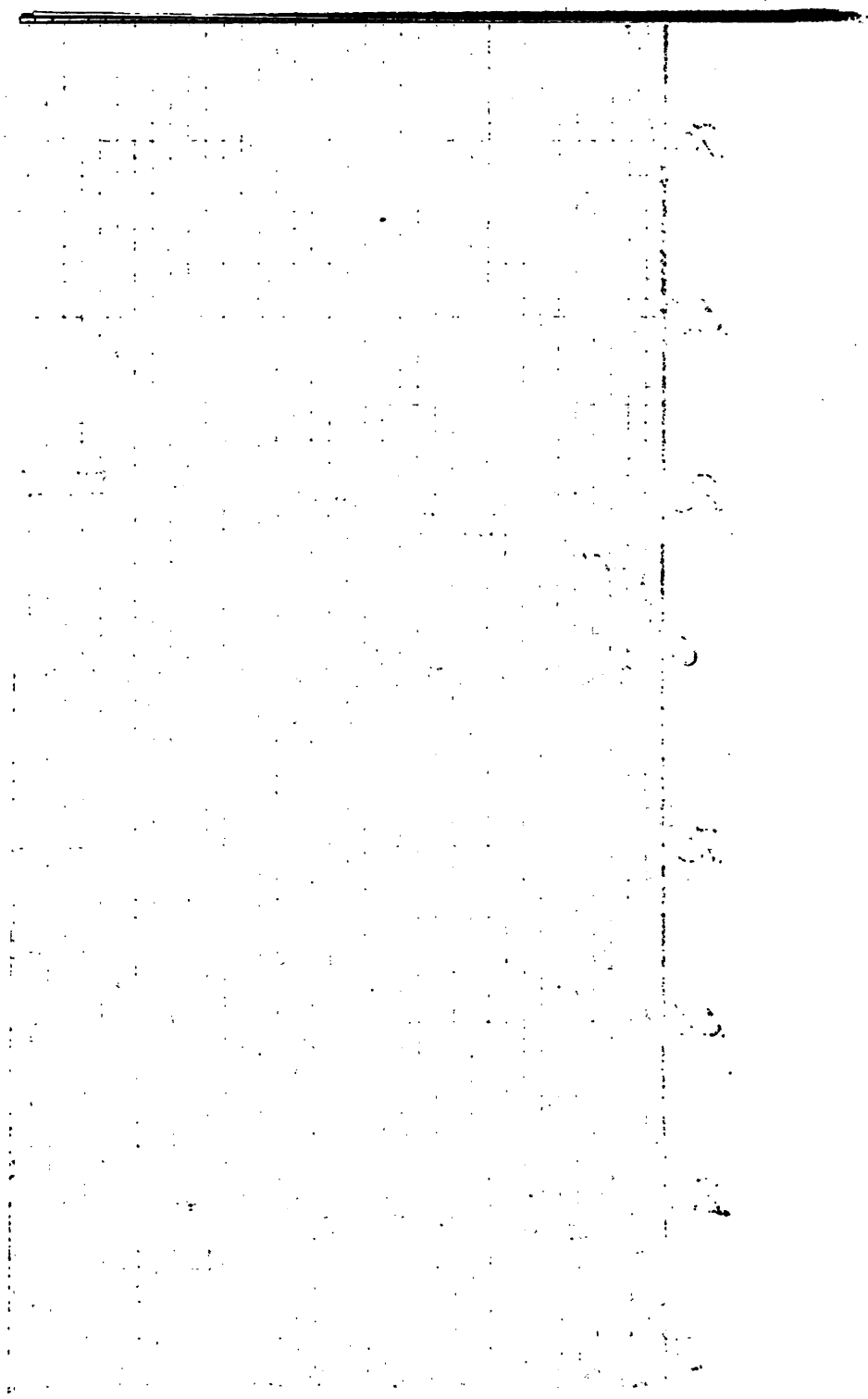
The increase of 3 cents in the average "Revised" labor cost over the "Claimed" is caused by the use of the "Revised" production tonnage as a divisor. The total "Claimed" labor cost was \$116,890,531, and the total "Revised" labor cost was \$116,693,250. The chief revision took place in the item of general expense, resulting in a decrease of 7 cents per ton.

The costs claimed by a number of operators, in this field, were obviously open to question as to their accuracy. Such operators were required by the Commission to furnish further detailed information in support of their "Claimed" costs. The examination of such detailed information revealed the fact that they had often included the expense of development work in their labor and supplies costs, and had included in their general expense costs such charges as interest on investment, excess-profits taxes, etc. In several instances in this field the operators who coked part of their output at the mine were found to have included the expense of coking the coal with their cost of mining.

There were only three marked cases of revision downward of labor cost. These involved about 0.4 of 1 per cent of the total output of the 199 operators. There was only one marked instance of revision downward of supplies cost. This involved about 0.1 of 1 per cent of the total output.

In the item of general expense, the chief instances of revision affected 21 operators, and involved about 4½ per cent of the total output for the year 1918, of the 199 operators. The "Claimed" costs were as follows:





1918, General Expense "Claimed."	Number of operators.	Claimed production.	Per cent of total output of 199 operators.
\$0.75-\$0.99 per ton.....	14	3,583,282	3.66
\$1.00-\$1.24 per ton.....	3	206,763	.24
\$1.25-\$1.49 per ton.....	3	85,278	.09
\$1.50 and over per ton.....	1	313,684	.35
Total.....	21	4,191,007	4.66

The inflation included in some of the foregoing "Claimed" costs can best be appreciated when it is borne in mind that the average of the "Claimed" general expense costs for the year 1918 for the field was \$0.37 per ton, and that "Claimed" general expense costs for 90 per cent of the tonnage of the field were under \$0.58. Of the 21 operators in the tabulation shown for general expense, 9 produced over 100,000 tons each during 1918. The "Claimed" and "Revised" tonnages mined by each of the 9 operators, and their "Claimed" and "Revised" general expense costs and "Claimed" and "Revised" total f. o. b. mine costs, are shown in the following statement:

TABLE 12. — Comparison of "Claimed" and "Revised" general expense and total f. o. b. mine costs of nine large producers.

Production.		General expense cost.		Total f. o. b. mine cost.	
"Claimed."	"Revised."	"Claimed."	"Revised."	"Claimed."	"Revised."
Tons.	Tons.	Per ton.	Per ton.	Per ton.	Per ton.
372,242	372,242	\$0.77	\$0.46	\$2.41	\$2.10
565,631	558,511	.78	.44	2.42	2.09
1,156,534	1,130,539	.82	.38	2.56	2.10
320,629	321,945	.84	.52	2.56	2.22
163,984	161,606	.92	.36	2.45	1.86
197,346	191,194	.94	.85	2.44	2.53
521,553	521,553	.97	.46	2.30	1.76
130,442	126,357	1.00	.68	3.61	2.77
313,684	303,714	3.36	.34	4.90	1.96

It should be noted that the total f. o. b. mine "Claimed" costs of all these operators were far above the average total f. o. b. mine "Claimed" costs for the 199 operators, which was \$1.99 for the year 1918, and in all but one case above the "Claimed" cost for 90 per cent of the tonnage, which was \$2.40.

6. 1918 costs, shown by thickness of seam mined.—As has been pointed out, the bulk of the output (about 83 per cent) of the Southwest Field came from 61 producers who operated more than one mine. Most of these producers did not report the costs of each mine separately. In order to include them in a tabulation to show costs by thickness of seam, it was necessary to use the average of the seams mined by them. This has led to the inclusion of data in

the tabulation for the 199 operators, which to a slight extent vitiates its scientific value, since it is not known whether equal tonnage was derived from mines which had seams above or below the average thickness. The tabulation by thickness of seam for the 199 operators follows:

TABLE 13.—*Seam tabulation of "Revised" cost for 199 operators.*

Thickness of seam.	Number of operators.	Production, 1918.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>				
36 to 47 inches.....	2	167,735	\$1.60	\$0.19	\$0.38	\$2.12
48 to 59 inches.....	17	5,489,648	1.32	.31	.31	1.94
60 to 71 inches.....	58	30,105,908	1.39	.28	.28	1.95
72 to 83 inches.....	45	15,073,828	1.35	.27	.36	1.98
84 to 95 inches.....	37	11,162,545	1.26	.34	.30	1.90
96 to 107 inches.....	27	7,561,812	1.24	.28	.41	1.94
108 inches and over.....	13	18,401,715	1.27	.27	.26	1.80
	199	87,963,186	1.33	.29	.30	1.92

NOTE.—Where two or more mines were operated by one producer, the average thickness of seams was used.

In order to eliminate the effect of the inclusion of average thicknesses, where producers operated two or more mines, a seam tabulation has been made of the 138 one-mine operators. It will be noted from the following table that their tonnage is much more regularly distributed among the different thicknesses of seam, than was the case with the 199 operators.

TABLE 14.—*Distribution, between seams, of output of 199 operators and 138 operators.*

Thickness of seam.	199 operators producing 87,963,186 tons in 1918.		138 operators producing 15,278,710 tons in 1918.	
	Number of operations.	Per cent of output.	Number of operations.	Per cent of output.
36 to 47 inches.....	2	0.2	2	1.1
48 to 59 inches.....	17	6.2	11	14.0
60 to 71 inches.....	58	34.2	39	20.1
72 to 83 inches.....	45	17.1	28	22.2
84 to 95 inches.....	37	12.7	20	20.8
96 to 107 inches.....	27	8.7	21	18.7
108 inches and over.....	13	20.9	8	3.1
Total.....	199	100.0	138	100.0

The tabulation of cost, by thickness of seam, for the 138 operators follows:

TABLE 15.—*Seam tabulation of "Revised" cost for 138 operators.*

Thickness of seam.	Number of operators.	Production, 1918.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>				
36 to 47 inches.....	2	167,735	\$1.60	\$0.19	\$0.33	\$2.12
48 to 59 inches.....	11	2,140,590	1.31	.28	.30	1.89
60 to 71 inches.....	39	3,076,489	1.43	.27	.37	2.07
72 to 83 inches.....	28	3,380,094	1.21	.29	.37	1.87
84 to 95 inches.....	29	3,176,777	1.24	.33	.37	1.94
96 to 107 inches.....	21	2,861,823	1.22	.30	.42	1.94
108 inches and over.....	8	475,202	1.25	.35	.44	2.04
	138	15,278,710	1.28	.30	.37	1.95

It will be noted that while in the case of both tabulations that the labor cost appears to be somewhat out of line for the 5 to 6 foot seam (60 to 71 inches), yet in each tabulation the labor cost for the seams which are from 3 to 7 feet thick are almost invariably appreciably higher than those for seams over 7 feet thick, while the supplies cost are somewhat lower.

There is not a close correlation between the item of general expense and the thickness of seam. General expense is less affected by conditions of a purely physical nature, but is closely connected with the commercial and financial economies of operation. The following comparison of the average costs of the 138 one-mine operators with those of the 61 operators of two or more mines is of interest:

TABLE 16.—*Comparison of average "Revised" costs: Operators with one mine with operators of two or more mines.*

Number of operators.	Number of mines.	Output, 1918.			Costs per ton.			
		Total output.	Output per operator.	Output per mine.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>				
138	138	15,278,710	110,716	110,716	\$1.28	\$0.30	\$0.37	\$1.95
61	324	72,684,476	1,191,549	224,835	1.33	.28	.29	1.90
199	462	87,963,186	442,036	190,400	1.33	.29	.30	1.92

It will be noted from the foregoing table that the item of general expense was much greater in the case of the operators of only one mine than with operators of two or more mines. This is, however, partly offset by the lower labor cost of the one-mine operators.

TABLE 11.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

Labor cost.				Supply cost.				General expenses.				Total f. o. b. mine cost.			
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	
1	66,626	0.07	0.07	1	1	55,183	0.06	0.06	1	1	66,626	0.07	0.07	1	
1	65,368	.07	.14	1	1	28,976	.08	.16	1	1	284,910	.32	.39	1	
1	80,548	.09	.23	1	1	32,947	.04	.20	1	1	284,910	.32	.70	1	
1	68,308	.08	.31	1	2	26,842	.03	.23	2	2	23,724	.08	.73	1	
1	106,555	.12	.43	1	4	167,896	.19	.42	4	1	9,467	.01	.74	1	
2	282,574	.31	.74	1	18	203,061	.22	.64	2	1	80,548	.09	.83	1	
2	26,724	.08	.77	1	19	188,012	.20	.84	1	1	80,548	.09	.91	1	
2	284,910	.32	1.09	1	20	178,978	.21	1.05	1	1	280,577	.30	1.21	2	
2	67,570	.07	1.16	1	21	988,485	.66	1.71	1	1	65,368	.07	1.28	1	
2	186,668	.17	1.33	1	22	402,704	.46	2.17	1	1	409,263	.45	1.73	2	
3	163,994	.18	1.51	1	23	33,049	.04	2.21	2	1	164,744	.19	1.92	1	
3	33,418	.04	1.55	1	24	591,923	.67	2.88	2	1	106,555	.12	2.04	1	
3	301,732	.34	1.89	3	25	145,760	.15	3.03	3	1	1,202,991	1.33	3.37	1	
3	450,763	.50	2.39	3	26	520,865	.57	3.60	3	1	23,536	.03	3.40	1	
3	75,513	.08	2.47	1	27	731,549	.81	4.41	1	1	735,197	.82	4.22	1	
4	258,261	.28	2.75	2	28	3,304,606	3.66	8.07	3	1	417,873	.46	4.68	1	
4	235,243	.25	3.03	2	29	838,257	.96	9.03	3	1	678,095	.76	5.43	1	
4	621,553	.68	3.61	4	30	2,869,722	2.62	11.65	2	1	996,574	1.03	6.46	1	
4	1,242,176	1.37	4.98	5	31	1,519,054	1.99	13.84	2	1	217,564	.22	6.70	1	
4	340,079	.40	5.38	5	32	1,207,110	1.33	15.67	3	1	19,952,343	22.18	28.88	1	
5	68,355	.08	5.46	3	33	1,015,130	1.14	15.81	3	1	317,052	.35	29.23	2	
5	163,327	.18	6.64	3	34	3,699,630	4.12	19.93	4	1	806,041	.90	30.37	3	
5	431,569	.71	6.35	10	35	17,673,413	19.63	39.56	3	1	126,051	.14	30.77	4	
5	129,172	.13	6.43	6	36	1,062,293	1.26	40.76	3	1	4,478,926	4.98	35.25	1	
5	462,864	1.08	7.56	8	37	5,346,475	5.95	46.71	6	1	33,418	.04	35.29	1	

1.15	2,946,595	3.28	10.84	3	32	20,945,521	23.28	69.99	9	38	2,166,187	2.42	74.23	5	1.87	423,698	.47	85.76	3
1.19	2,413,680	.57	11.31	3	33	1,864,230	1.29	71.28	9	39	2,389,399	3.43	74.06	5	1.88	279,113	.31	86.07	4
1.19	576,688	.75	12.06	4	34	1,883,699	2.11	72.39	7	40	3,476,704	3.98	73.84	5	1.89	2,413,541	2.08	82.75	2
1.19	576,712	.66	12.02	4	35	1,883,028	1.00	74.39	4	41	1,012,753	1.73	74.67	5	1.90	3,015,518	4.12	82.77	2
1.19	718,369	.80	13.42	2	36	2,369,402	2.62	77.01	6	42	1,682,183	1.70	74.67	5	1.91	184,572	.17	82.94	3
1.20	115,658	.13	13.55	2	37	1,768,940	1.95	78.96	4	43	1,413,162	1.87	82.99	5	1.92	2,555,518	2.84	85.78	3
1.21	302,707	.53	12.88	3	38	2,016,775	2.24	81.29	4	44	1,414,245	.49	83.48	5	1.93	1,498,671	1.89	87.35	2
1.22	18,944,704	21.04	34.94	6	39	4,167,195	2.43	83.63	3	45	2,687,591	.29	83.77	1	1.94	95,865	.08	87.40	2
1.23	5,244,015	4.83	34.94	4	40	1,200,524	1.45	87.28	3	46	1,682,774	1.81	83.53	2	1.95	64,609	.06	87.45	1
1.24	5,700,515	4.41	44.91	5	41	1,613,685	2.01	89.29	3	47	78,968	.08	83.66	2	1.96	319,066	.26	87.82	1
1.25	2,658,267	2.95	47.86	3	42	408,032	.49	89.75	2	48	844,533	.94	86.60	4	1.97	944,530	1.05	88.87	2
1.26	3,322,707	8.70	51.56	6	43	335,161	1.37	90.12	3	49	1,109,177	1.23	87.93	6	1.98	659,956	.71	87.82	6
1.27	3,515,885	9.90	52.46	2	44	1,319,133	1.47	91.59	9	50	84,684	.10	88.03	2	1.99	16,384,833	18.21	87.82	6
1.28	700,037	.78	54.27	5	45	727,856	2.31	92.41	9	51	122,923	.14	88.17	2	2.00	413,833	.46	88.52	5
1.29	628,137	1.03	54.27	5	46	2,074,216	2.31	94.72	2	52	370,467	.42	88.50	2	2.01	218,820	.24	88.52	1
1.30	973,099	1.09	55.36	4	47	244,923	.27	94.99	3	53	1,015,251	1.12	89.71	4	2.02	328,708	.26	88.88	1
1.31	264,540	.29	55.45	5	48	260,259	.20	95.23	1	54	175,758	.20	90.01	1	2.03	510,547	.57	89.45	4
1.32	1,662,940	1.38	57.53	4	49	612,686	.69	95.97	2	55	98,060	.11	90.92	1	2.04	746,373	.83	90.28	4
1.33	2,899,973	3.15	60.68	7	50	245,439	.27	98.24	2	56	33,610	.10	90.13	1	2.05	1,481,335	1.65	91.98	3
1.34	2,002,194	2.22	62.90	3	51	1,480,009	1.67	97.91	4	57	611,064	.68	90.80	2	2.06	419,827	.46	92.39	2
1.35	2,151,068	2.40	65.30	5	52	196,171	.21	98.12	2	58	376,247	.41	91.21	5	2.07	1,916,116	2.13	94.52	4
1.36	14,883,533	16.54	81.84	6	53	381,471	.43	98.55	2	59	100,520	.21	91.42	3	2.08	896,982	.92	95.44	1
1.37	401,620	.46	82.30	2	54	107,198	.13	98.67	1	60	288,712	.31	91.73	5	2.09	333,211	.40	95.84	2
1.38	3,698,046	4.10	86.40	5	55	14,208	.01	98.68	1	61	70,660	.04	91.77	5	2.10	77,583	.08	95.92	1
1.39	2,293,248	.26	86.66	1	56	763,638	.88	99.56	1	62	232,084	.28	92.05	4	2.11	2,175,846	2.42	95.92	5
1.40	17,073	.02	86.68	1	57	130,442	.15	99.71	1	63	1,086,134	1.34	93.89	3	2.12	42,594	.05	96.39	1
1.41	55,481	.06	86.74	2	58	37,494	.04	99.75	1	64	363,715	.21	93.79	3	2.13	1,762,074	1.99	90.38	4
1.42	26,786	.03	86.77	1	59	48,871	.05	99.80	1	65	117,288	.13	93.92	4	2.14	216,237	.24	90.62	2
1.43	791,637	.88	87.65	3	60	25,707	.03	99.80	1	66	117,288	.13	93.92	2	2.15	903,989	1.00	91.62	2
1.45	63,474	.07	87.72	2	61	33,847	.06	99.89	1	67	65,398	.07	94.07	1	2.16	464,209	.52	92.14	2
1.46	1,405,478	1.56	89.28	5	62	98,194	.11	100.00	1	68	70,766	.08	94.15	1	2.17	332,572	.37	93.51	1
1.47	511,296	.57	89.55	3	63	37,494	.04	99.75	1	69	22,352	.03	94.18	2	2.18	120,046	.13	92.64	3
1.48	1,985,708	2.17	92.02	3	64	48,871	.05	99.80	1	70	163,327	.18	94.36	1	2.19	156,551	.18	92.82	1
1.49	460,813	.51	92.83	3	65	25,707	.03	99.83	1	71	249,536	.27	94.63	2	2.20	822,035	.91	93.73	1
1.50	62,716	.06	92.89	2	66	33,847	.06	99.89	1	72	96,890	.11	94.74	3	2.21	32,947	.04	93.77	1
1.51	20,818	.02	92.61	1	67	98,194	.11	100.00	1	73	611,376	.08	95.42	3	2.22	544,104	.60	94.37	2
1.52	40,257	.04	92.65	1	68	37,494	.05	99.80	1	74	583,006	.65	96.07	2	2.23	676,827	.76	95.13	2
1.54	185,219	.18	92.83	1	69	48,871	.05	99.80	1	75	183,327	.18	94.36	2	2.24	783,658	.88	96.01	2
1.55	37,494	.03	92.87	1	70	25,707	.03	99.83	1	76	249,536	.27	94.63	2	2.25	783,658	.88	96.01	1
1.56	2,272,685	2.63	95.40	4	71	101,752	.81	101.752	1	77	611,376	.08	95.42	2	2.26	149,218	.16	96.17	2
1.58	33,847	.08	95.43	1	72	96,890	.11	100.00	1	78	1,166,524	1.29	97.64	1	2.27	1,262,264	1.41	97.58	5
1.59	134,783	.15	96.58	2	73	37,494	.05	99.80	1	79	611,376	.08	95.42	3	2.28	544,104	.60	94.37	2
1.60	101,233	.11	96.60	2	74	48,871	.05	99.80	1	80	583,006	.65	96.07	2	2.29	676,827	.76	95.13	2
1.61	284,733	.32	96.01	1	75	101,752	.81	101.752	1	81	1,166,524	1.29	97.64	1	2.30	783,658	.88	96.01	1
1.62	317,740	.35	96.36	1	76	96,890	.11	100.00	1	82	1,166,524	1.29	97.64	1	2.31	1,262,264	1.41	97.58	5
1.63					77	370,015	.42	98.06	2	83	370,015	.42	98.06	2	2.32	544,104	.60	94.37	2
					78	125,961	.13	98.19	2	84	583,006	.65	96.07	2	2.33	676,827	.76	95.13	2
					79	78,968	.08	98.27	3	85	1,166,524	1.29	97.64	1	2.34	783,658	.88	96.01	1
					80	163,327	.18	94.36	2	86	1,166,524	1.29	97.64	1	2.35	1,262,264	1.41	97.58	5
					81	101,752	.81	101.752	1	87	370,015	.42	98.06	2	2.36	544,104	.60	94.37	2
					82	96,890	.11	100.00	1	88	125,961	.13	98.19	2	2.37	676,827	.76	95.13	2
					83	1,166,524	1.29	97.64	1	89	78,968	.08	98.27	3	2.38	783,658	.88	96.01	1
					84	370,015	.42	98.06	2	90	1,166,524	1.29	97.64	1	2.39	1,262,264	1.41	97.58	5
					85	125,961	.13	98.19	2	91	583,006	.65	96.07	2	2.40	676,827	.76	95.13	2
					86	78,968	.08	98.27	3	92	1,166,524	1.29	97.64	1	2.41	783,658	.88	96.01	1
					87	163,327	.18	94.36	2	93	1,166,524	1.29	97.64	1	2.42	1,262,264	1.41	97.58	5
					88	101,752	.81	101.752	1	94	370,015	.42	98.06	2	2.43	544,104	.60	94.37	2
					89	96,890	.11	100.00	1	95	125,961	.13	98.19	2	2.44	676,827	.76	95.13	2
					90	1,166,524	1.29	97.64	1	96	78,968	.08	98.27	3	2.45	783,658	.88	96.01	1
					91	370,015	.42	98.06	2	97	1,166,524	1.29	97.64	1	2.46	1,262,264	1.41	97.58	5
					92	125,961	.13	98.19	2	98	583,006	.65	96.07	2	2.47	676,827	.76	95.13	2
					93	78,968	.08	98.27	3	99	1,166,524	1.29	97.64	1	2.48	783,658	.88	96.01	1
					94	163,327	.18	94.36	2	100	1,166,524	1.29	97.64	1	2.49	1,262,264	1.41	97.58	5

TABLE 11.—“Claimed” labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 199 operators producing bituminous coal in the Southwest Field of the State of Pennsylvania—Continued.

Labor cost.					Supply cost.					General expenses.					Total f. o. b. mine cost.				
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.
\$1.64	60,178	0.07	98.43	2	.....	.....	.....	.....	.....	\$0.97	521,533	0.58	99.25	1	\$2.94	17,073	0.02	88.86	1
1.65	13,520	.01	98.44	1	.....	.....	.....	.....	.....	1.00	130,442	.15	99.40	1	2.96	243,832	.77	89.12	2
1.66	82,743	.04	98.48	1	.....	.....	.....	.....	.....	1.10	64,531	.08	99.48	2	2.98	244,831	.78	89.30	1
1.68	1,786,326	1.97	98.48	2	.....	.....	.....	.....	.....	1.12	21,441	.04	99.52	1	2.99	231,519	.80	89.56	1
1.70	34,387	.05	98.48	1	.....	.....	.....	.....	.....	1.25	27,097	.04	99.56	1	2.41	1,686,697	1.87	91.43	2
1.71	231,510	.26	98.74	1	.....	.....	.....	.....	.....	1.26	34,370	.04	99.60	1	2.42	2,322,107	2.59	94.02	2
1.72	339,927	.28	99.12	1	.....	.....	.....	.....	.....	1.29	31,011	.03	99.63	1	2.43	506,560	.56	94.58	2
1.73	41,541	.04	99.16	1	.....	.....	.....	.....	.....	1.32	19,883	.02	99.65	1	2.44	394,352	.44	95.02	2
1.74	26,161	.03	99.19	1	.....	.....	.....	.....	.....	3.36	313,684	.35	100.00	1	2.45	48,255	.01	95.07	1
1.77	26,713	.03	99.22	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.46	817,629	.91	95.98	2
1.78	48,551	.05	99.27	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.47	38,895	.04	96.02	1
1.79	38,895	.04	99.31	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.50	99,528	.11	96.13	3
1.80	22,352	.03	99.34	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.51	61,921	.07	96.20	1
1.83	97,898	.11	99.45	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.52	97,898	.11	96.31	1
1.97	17,602	.02	99.47	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.53	424,147	.47	96.78	2
2.02	130,442	.15	99.62	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.54	23,743	.04	96.82	1
2.09	68,050	.11	99.73	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.55	19,888	.02	96.84	1
2.10	19,363	.02	99.75	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.56	1,497,083	1.67	98.51	3
2.11	68,194	.11	99.86	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.57	40,257	.04	98.55	1
2.13	97,251	.11	99.97	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.59	58,367	.06	98.61	1
2.24	16,765	.02	99.99	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.63	45,871	.05	98.66	1
2.89	14,208	.01	100.00	1	2.65	64,725	.07	98.73	2
.....	2.66	27,067	.04	98.77	1
.....	2.67	33,327	.03	98.80	1
.....	2.70	36,384	.04	98.84	1

COAL.

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[illegible]

A comparison of the "Claimed" costs with the "Revised" is shown in graphic form on Diagram 2 (opposite). The changes brought about through the revision in the average costs for the year 1918 for the 199 operators are as follows:

Items.	"Claimed" costs.	"Revised" costs.	Increase (I) or decrease (D) due to revision.
Production tonnage.....tons..	89,979,362	87,963,196	¹ 2,016,176(D)
Labor.....per ton..	\$1.30	\$1.33	\$0.03(I)
Supplies.....do..	\$0.32	\$0.29	\$0.03(D)
General expense.....do..	\$0.37	\$0.30	\$0.07(D)
Total f. o. b. mine.....do..	\$1.96	\$1.92	\$0.07(D)

¹ Power-house fuel.

The increase of 3 cents in the average "Revised" labor cost over the "Claimed" is caused by the use of the "Revised" production tonnage as a divisor. The total "Claimed" labor cost was \$116,890,531, and the total "Revised" labor cost was \$116,693,250. The chief revision took place in the item of general expense, resulting in a decrease of 7 cents per ton.

The costs claimed by a number of operators, in this field, were obviously open to question as to their accuracy. Such operators were required by the Commission to furnish further detailed information in support of their "Claimed" costs. The examination of such detailed information revealed the fact that they had often included the expense of development work in their labor and supplies costs, and had included in their general expense costs such charges as interest on investment, excess-profits taxes, etc. In several instances in this field the operators who coked part of their output at the mine were found to have included the expense of coking the coal with their cost of mining.

There were only three marked cases of revision downward of labor cost. These involved about 0.4 of 1 per cent of the total output of the 199 operators. There was only one marked instance of revision downward of supplies cost. This involved about 0.1 of 1 per cent of the total output.

In the item of general expense, the chief instances of revision affected 21 operators, and involved about 4½ per cent of the total output for the year 1918, of the 199 operators. The "Claimed" costs were as follows:

Chart 5

Costs and Sales Realization for the same 17 operators averaged for various periods, 1916-1918

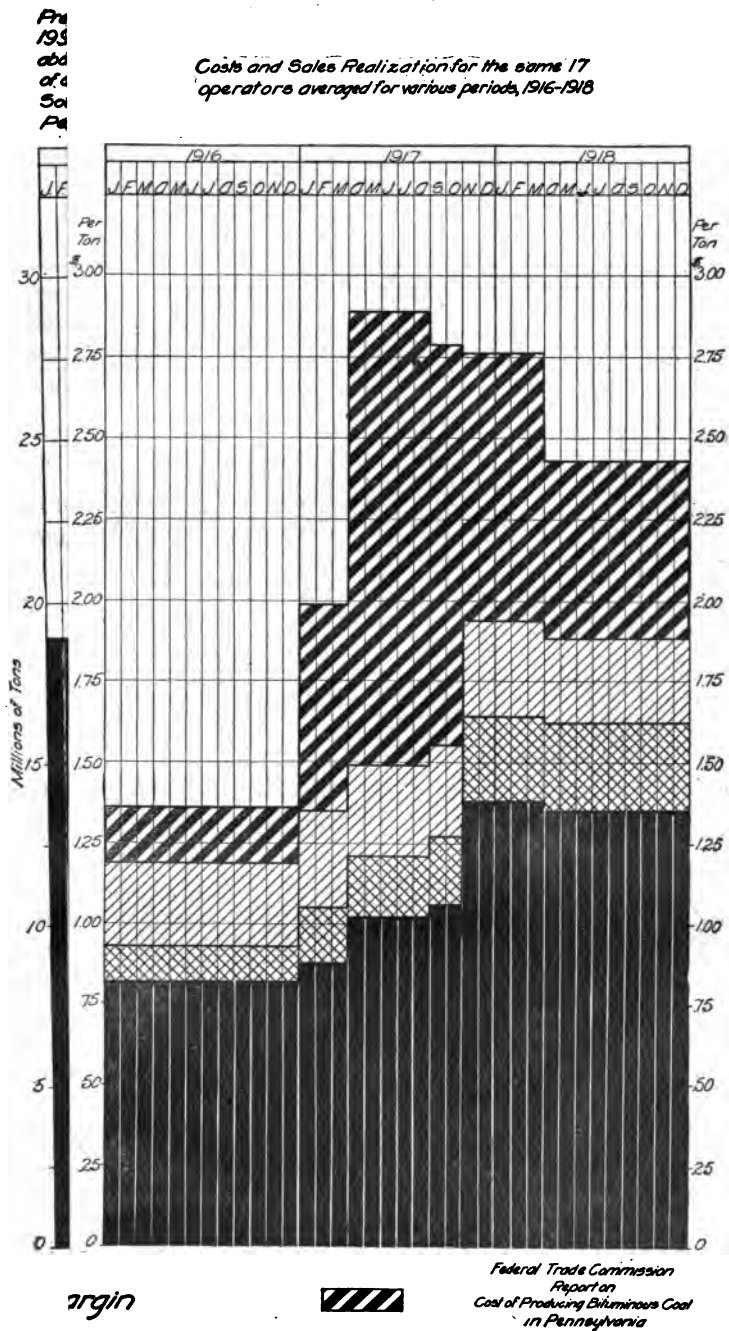
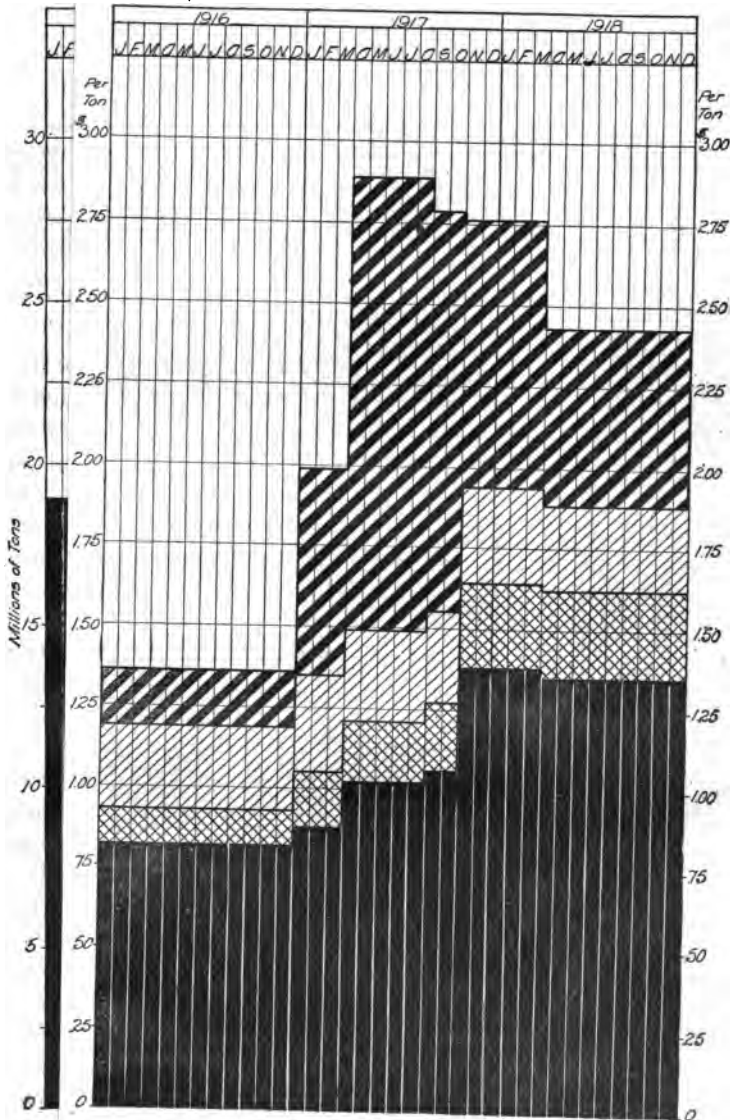


TABLE 19.—"Revised" and "Claimed" costs and sales realization: 17 companies mining about 23,000,000 tons annually in the Southwest Field of Pennsylvania, 1916-1918.

Period.	Production.		Labor cost.		Supplies cost.		General expense cost.		Total f. o. b. mine cost.		Sales realization.	Margins (realization over f. o. b. mine cost).	
	Revised.	Claimed.	Revised.	Claimed.	Revised.	Claimed.	Revised.	Claimed.	Revised.	Claimed.		Revised.	Claimed.
Year 1916.....	Tons. 23,121,579	Tons. 23,440,702	\$0.52	\$0.81	\$0.12	\$0.14	\$0.25	\$0.26	\$1.19	\$1.21	\$1.36	\$0.17	\$0.15
1917.													
January.....	1,907,760	1,941,485	.87	.86	.17	.19	.29	.30	1.33	1.35	1.94	.51	.49
February.....	1,582,429	1,612,989	.90	.89	.18	.21	.32	.32	1.40	1.42	2.08	.68	.66
March.....	1,961,952	1,994,794	.88	.86	.16	.19	.29	.31	1.33	1.36	2.06	.73	.70
April.....	1,826,629	1,856,964	.97	.95	.16	.19	.30	.31	1.43	1.45	2.52	1.09	1.07
May.....	2,137,165	2,167,449	1.02	1.00	.17	.19	.29	.31	1.48	1.50	2.61	1.43	1.41
June.....	2,167,014	2,195,863	1.02	1.01	.17	.18	.28	.31	1.47	1.50	3.00	1.53	1.50
July.....	2,037,048	2,064,971	1.05	1.03	.20	.22	.29	.32	1.54	1.57	3.06	1.52	1.49
August.....	2,120,749	2,150,307	1.05	1.05	.22	.23	.26	.34	1.53	1.54	2.90	1.37	1.28
September.....	1,981,808	2,003,109	1.04	1.05	.23	.23	.27	.33	1.54	1.61	2.83	1.29	1.22
October.....	2,103,663	2,134,713	1.07	1.07	.21	.23	.28	.32	1.56	1.62	2.75	1.19	1.13
November.....	1,765,522	1,795,306	1.33	1.34	.25	.26	.30	.34	1.88	1.94	2.86	.98	.92
December.....	1,550,657	1,562,471	1.37	1.37	.30	.32	.35	.44	2.02	2.13	2.79	.77	.66
1918.													
January.....	1,472,401	1,505,474	1.44	1.41	.25	.29	.31	.37	2.00	2.07	2.75	.75	.68
February.....	1,412,631	1,442,809	1.44	1.41	.25	.29	.30	.37	1.99	2.07	2.69	.70	.62
March.....	1,815,055	1,846,316	1.36	1.33	.23	.27	.26	.33	1.85	1.88	2.71	.86	.78
April.....	1,988,263	2,019,690	1.30	1.28	.22	.26	.27	.34	1.79	1.88	2.44	.65	.56
May.....	2,062,114	2,093,026	1.31	1.29	.24	.27	.25	.33	1.80	1.89	2.43	.63	.54
June.....	2,049,172	2,077,184	1.31	1.30	.25	.28	.25	.33	1.82	1.91	2.43	.61	.52
July.....	2,218,419	2,246,609	1.31	1.29	.24	.28	.25	.31	1.80	1.88	2.43	.53	.55
August.....	2,121,109	2,152,478	1.35	1.33	.25	.27	.26	.33	1.86	1.93	2.44	.58	.51
September.....	1,998,388	2,023,183	1.36	1.34	.26	.30	.25	.33	1.90	1.97	2.44	.54	.47
October.....	2,103,599	2,131,598	1.35	1.33	.26	.29	.26	.33	1.87	2.00	2.44	.57	.44
November.....	1,432,310	1,469,545	1.42	1.42	.35	.39	.34	.40	2.14	2.21	2.42	.23	.21
December.....	1,700,443	1,728,165	1.42	1.39	.35	.39	.29	.48	2.06	2.26	2.37	.31	.11
Year 1918.													
January.....	23,121,579	23,440,702	.82	.81	.12	.14	.25	.26	1.19	1.21	1.36	.17	.15
February.....	6,452,411	6,449,293	1.06	1.04	.10	.10	.26	.31	1.35	1.37	1.99	.64	.62
March.....	10,888,603	10,835,583	1.06	1.04	.10	.10	.26	.32	1.49	1.52	2.29	1.40	1.36
April.....	8,018,501	8,137,822	1.06	1.04	.10	.10	.26	.33	1.45	1.52	2.29	1.34	1.36
May.....	8,018,501	8,137,822	1.06	1.04	.10	.10	.26	.33	1.45	1.52	2.29	1.34	1.36
June.....	8,018,501	8,137,822	1.06	1.04	.10	.10	.26	.33	1.45	1.52	2.29	1.34	1.36
July.....	17,673,817	17,862,418	1.38	1.33	.27	.30	.26	.35	1.88	1.93	2.43	.55	.45
Year 1916.													
Year 1917.													
Year 1918.													
Year 1916.	23,121,579	23,440,702	.82	.81	.12	.14	.25	.26	1.19	1.21	1.36	.17	.15
Year 1917.	23,142,426	23,500,511	1.04	1.04	.20	.22	.29	.32	1.53	1.58	2.45	1.12	1.07
Year 1918.	22,373,904	22,727,017	1.38	1.34	.26	.29	.27	.36	1.89	1.99	2.49	.60	.50

Chart 5

Costs and Sales Realization for the same 17 operators averaged for various periods, 1916-1918



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Report on
Cost of Producing Bituminous Coal
in Pennsylvania

3. *Comparison of "Revised" and "Claimed" costs.*—The average change in costs made through revision for the years 1916, 1917, and 1918, and for the six specified periods in 1916–1918 (see p. 40) is shown in the following table:

TABLE 20.—*Effect of revision on 1916–1918 "Claimed" costs.*

[Cents per ton.]

Period.	Labor cost increase due to revision.	Supplies cost decrease due to revision.	General ex- pense cost decrease due to revision.	Total f. o. b. mine cost decrease due to revision.
Year 1916.....	1	2	1	2
Year 1917.....	2	2	3	5
Year 1918.....	2	3	9	10
Year 1916.....	1	2	1	2
January–March, 1917.....	1	2	1	2
April–August, 1917.....	1	1	4	4
September–October, 1917.....	1	2	5	7
November, 1917–March, 1918.....	1	3	6	8
April–December, 1918.....	2	3	9	10

An inspection of the monthly figures shown in Table 19 shows that the amount of revision found necessary was relatively slight prior to August, 1917. Commencing with that month, costs were regularly reported each month to the Commission by the operators. It will be noted that the changes due to revision for December of 1917, and 1918, were much greater than for those for the months immediately preceding. A part of this is due to the general practice of operators of making closing entries in December for items which logically should be distributed over the entire yearly period. Of the revision made for October and December, 1918, a large part was due to the inclusion in the "Claimed" costs reported for those months, of donations amounting to several hundred thousand dollars made to the War Workers and Red Cross funds. The increase in labor cost, made by revision is due in part to a redistribution of items which had been reported under supplies cost or general expense, but which properly came under labor. Some coal coking costs were excluded from the "Claimed" labor cost. The revision of the general expense cost is largely responsible for the difference between the "Claimed" and "Revised" total f. o. b. mine cost. In every case the revision was made only after obtaining from the operator a further statement which gave a detailed analysis of the "Claimed" cost sheet items which were questioned. These detailed statements showed that many of the operators had included charges for one or more of the following items: Development expense, interest on investment, excess-profits taxes, donations, etc. After a careful examination of all the facts brought forth, the Commission's accountants then revised the "Claimed" costs to conform to the rules prescribed by the Commis-

sion in its "Instructions for Compiling Reports on Cost, Income and Tonnage," which had been disregarded by the operator in making his report.

4. *Effect of governmental price regulations.*—As already stated, costs and sales realizations for 1916 were not obtained by months, but merely the figures for the calendar year. An examination has been made of the costs and sales realizations during 1916 of monthly figures obtained from a number of operators in neighboring States. The facts brought out by this study are believed to apply in a general way to Pennsylvania conditions. They show that the sales realization and costs were lowest during the first quarter of 1916. An increase in the wage scale took place in April, 1916, and the yearly contracts made at that time at a higher price as well as the "spot" market sales reflect this wage increase in a higher sales realization. The sales realization continued fairly uniform from April throughout August. It was about 8 per cent higher in September and October. In November and December it was about 12 per cent over the midsummer price. The total f. o. b. mine costs by December had increased about 9 per cent over the April costs. It is evident, therefore, that the sales realization and the total f. o. b. mine costs during the last quarter of 1916 were substantially higher than the earlier quarters. These facts are not brought out on Charts 3 and 5, where merely the yearly average appears for 1916.

From 1917 on the Commission has figures compiled directly from the monthly cost reports. The first quarter of 1917 showed the effect of the increased demand for coal, on the "spot" market, in a margin much higher than the annual average for 1916. On March 31, 1917, most of the yearly contracts which had been effective since April, 1916, expired. As a result, much of the output hitherto sold under contract became available for sale at the current "spot" market prices. The sales realizations rose rapidly during the next five months, reaching their highest point of \$3.06 in July, 1917. During this time many contracts which did not expire until March 31, 1918, were made at relatively high prices. On August 21, 1917, the Government first fixed prices under the Lever Act. The August sales realization was \$2.90 (16 cents below July). The fall in sales realization continued during September (\$2.83) and October (\$2.75). The total "Revised" f. o. b. mine costs changed but little during the four months. In November a 45-cent increase in price of noncontracted coal was allowed by the President, to take care of an increase in the wage scale which went into effect at that time. During the five-month period November, 1917-March, 1918, there was a sharp increase in cost, due in part to the increased wage scale, and in part to the heavy curtailment in production caused by transportation and weather difficulties, specially during December, January, and February, when production

was far below the monthly average. (See Chart 3, facing p. 42). On March 31, 1918, there expired most of the high-priced contracts entered into before the fixing of Government prices on coal and the organization of the Fuel Administration. There followed a sharp drop in the sales realization, since prices of all new contracts, as well as of the uncontracted coal (comprising practically the entire output), then came under the control of the Fuel Administration. The average sales realization for the nine-months period ending December, 1918, was \$2.43 (33 cents lower than that for the preceding period of November, 1917–March, 1918). The average total f. o. b. mine cost was \$1.88 (6 cents lower). It should be noted that the curtailment of production in November and December, 1918, following the armistice caused the total f. o. b. mine cost for those months to go up sharply. (See Chart 4, facing p. 42).

The effect on coal prices of governmental regulation is best shown by a comparison of the margins of the period April 1 to August 31, 1917 (the five months following the expiration of the 1916 contracts and immediately preceding governmental price fixing), when the average margin was \$1.40 per ton, with the period from April 1 to December 31, 1918 (the nine months following the expiration of the contracts made prior to Aug. 21, 1917), when the margin was \$0.55 per ton. While the margins for the periods September–October, 1917 (\$1.24), and November, 1917–March, 1918 (\$0.82), are substantially lower than that of the period April 1–August 31, 1917 (\$1.40), the direct effect of the governmental regulation is obscured through the existence of the high priced contracts under which a large part of the output was sold.

5. *Effect of prices on production.*—At the time when prices were first fixed on noncontracted coal by Executive order of August 21, 1917, there was objection on the part of some operators against the prices then named. It was predicted by them that the output of the mines would be materially cut down if such prices prevailed, since it was claimed that the margin left the operator afforded no incentive to production. It is, therefore, of interest to consider the various official prices established in the Southwest Field in connection with the sales realizations, cost of production, and output.

The output of the 17 operators whose costs are shown for 1916–1918 averaged 1,926,798 tons per month during 1916, 1,928,535 tons per month during 1917, and 1,864,492 tons per month in 1918. The first division of Table 19 shows in comparative form the output, cost of production, sales realizations, and margin, by months, for 1917 and 1918, and chart 4 shows this information in graphic form.

It will be noted that the output during January, 1917, was slightly below the monthly average for 1917 (1,928,535 tons) and that for February it was about 350,000 tons below, probably because of

weather conditions. The margin in February was 17 cents over that in January, being 68 cents. March, with a margin of 73 cents, had a production slightly above the average. April, with a margin of \$1.09, had a production about 100,000 tons below the average. This was probably because of the uncertainty connected with the increase of the wage scale. The wage scale had been agreed upon in 1916 to run for two years, but the miners demanded and obtained an increase in April, 1917.

The production in May (with a margin of \$1.41) was about 200,000 tons above the monthly average, and it rose in June (with a margin of \$1.53) to the highest point reached during 1917 (2,167,014 tons). It fell off somewhat in July (with a margin of \$1.52), but was still above the average, and advanced in August (with a margin of \$1.37).

Governmental prices fixed for the sale of coal not then under contract in this field on August 21, 1917, were as follows: Run of mine, \$2; prepared sizes, \$2.25; slack, \$1.75. The average proportions which these three classes form of the total output, based on actual returns for all operators in the Southwest Field who reported to the Federal Trade Commission during the period August–December, 1917, are as follows: Run of mine, 56 per cent; prepared sizes, 31 per cent; slack, 13 per cent. If the entire output of the 17 operators had been sold at the prices established August 21, 1917, it would have brought them a sales realization of \$2.05 per ton, a realization slightly exceeding that actually obtained by them during the first quarter of 1917 (\$1.99) and about \$1 below that actually obtained by them in July, 1917 (\$3.06). It may be pointed out that had the 17 operators sold their entire output during August, September, and October at \$2.05 they would have received margins of about 51 cents per ton, three times their actual average margin for the year 1916.

The distribution of the total f. o. b. mine costs for 165 operators who produced 21,811,267 tons from 405 mines during the three months of August–October, 1917, is shown in Table 21. The costs for September and October were slightly higher than those for August.

TABLE 21.—*Total f. o. b. mine costs of 165 operators in the Southwest Field during August–October, 1917.*

Total f. o. b. mine cost per ton by \$0.10 grouping.	Number of operators.	Accumulated per cent.	Total f. o. b. mine cost per ton by \$0.10 grouping.	Number of operators.	Accumulated per cent.
Under 60 cents.....	1	0.0	\$1.90 to \$1.99.....	7	97.2
\$0.90 to \$0.99.....	1	.1	\$2 to \$2.09.....	9	97.7
\$0.90 to \$0.99.....	2	.6	\$2.10 to \$2.19.....	8	98.7
\$1 to \$1.09.....	3	.8	\$2.20 to \$2.29.....	4	98.9
\$1.10 to \$1.19.....	2	2.4	\$2.30 to \$2.39.....	2	99.0
\$1.20 to \$1.29.....	4	6.8	\$2.40 to \$2.49.....	4	99.1
\$1.30 to \$1.39.....	17	32.0	\$2.50 to \$2.59.....	4	99.4
\$1.40 to \$1.49.....	23	48.5	\$2.70 to \$2.79.....	1	99.5
\$1.50 to \$1.59.....	20	73.4	\$2.80 to \$2.89.....	3	99.6
\$1.60 to \$1.69.....	16	82.8	\$3 to \$3.09.....	3	99.9
\$1.70 to \$1.79.....	21	90.8	\$3.10 to \$3.19.....	1	99.9
\$1.80 to \$1.89.....	8	94.8	\$3.20 to \$3.29.....	1	100.0

It will be noted from the above table that had the operators sold their entire output at the prices fixed by the President on August 21, 1917, that about 91 per cent of the output would have shown a margin greater than that made by the 17 representative operators in 1916 (17 cents). The 165 operators received an *actual* sales realization, however, during August-October, 1917, averaging \$2.70 per ton, which left them an average margin of \$1.17 per ton over their average f. o. b. mine cost of \$1.53 per ton.

During September (the month following price fixing) the production of the 17 representative operators dropped to 1,981,808 tons. This was still above the monthly average for 1917. The sales realization during September was \$2.83 and the margin \$1.29. In October the production again rose, reaching 2,103,693 tons. The sales realization dropped to \$2.75 and the margin to \$1.19. Effective October 29, 1917, an Executive order permitted operators to add 45 cents per ton to the Government prices of August 21, to compensate them for an increase in the wage scale which went into effect November 1. This order did not apply to coal sold under contract. As a result of the increase in prices of uncontracted coal, the sales realization rose for November to \$2.86, though the margin dropped to 98 cents. This decrease of margin was due to the heavy increase in costs, consequent on the increased labor costs (wages increase) and the falling off of production (some 300,000 tons), due to weather and transportation conditions.

The same explanation holds true for the much lower margins of December, 1917 (77 cents); January, 1918 (75 cents); and February (70 cents). Production declined during these winter months and in February was only 1,412,631 tons. The sales realization was falling (\$2.79 in December, \$2.75 in January, and \$2.69 in February), but the chief reason for the relatively lower margin was due to the increase in the costs. In March, 1918, however, the total f. o. b. mine cost dropped 14 cents per ton, to \$1.85, while production increased about 400,000 tons over February. There was an increase of 16 cents in the margin (to 86 cents). Two cents of this increase of margin was due to an increase in sales realization (to \$2.71). This was probably caused by the shipping out of coal to complete deliveries on the high-priced contracts which were entered into prior to August 21, 1917, and which expired March 31, 1918.

The effect of the expiration of these contracts is evident from the sales realization for April (\$2.44). All contracts made subsequent to August 21, 1917, were required to conform to the price-regulations of the Fuel Administration. The sales realization continued practically unchanged for some months, being \$2.44 in April, \$2.43 in May, June, and July, \$2.44 again in August, September, and October, and \$2.42 in November. It dropped in December to \$2.37. The official prices

were changed twice during this period. On May 25 they were reduced 10 cents per ton (making a possible realization on the entire output of \$2.40 per ton, a figure derived by using the above stated proportions of prepared sizes, slack, and run of mine). On June 29 the price of slack was increased 25 cents per ton (making a possible realization on the output of \$2.43 per ton). The total f. o. b. mine costs from April to October, 1918, were lowest (\$1.79) in April. They had a general upward trend reaching \$1.87 in October.

These seven months, April–October, 1918, were, on the whole, a period of generally declining margins from 65 cents in April to 57 cents in October. The production, notwithstanding the decrease in margins, was much above the 1918 monthly average, being around 2,000,000 tons every month, and reaching a maximum of 2,218,419 tons in July, 1918. During that month the total f. o. b. mine cost was \$1.80 per ton, sales realization \$2.43, and margin 63 cents. The previous high record for production was June, 1917, when the production was 2,167,014 tons, the total f. o. b. mine cost was \$1.47 per ton, the sales realization \$3.00, and the margin \$1.53.

The production fell off in November, 1918, in consequence of the signing of the armistice. In that month but 1,432,310 tons were mined by the 17 operators. As a result of the low production, the total f. o. b. mine cost in November went up 27 cents over October. The margin dropped to 28 cents. A similar explanation applies to the relatively high cost in December, when the margin was 31 cents.

It will be evident from the foregoing analysis of the 24 months' period, 8 months of which were prior and 16 subsequent to governmental price regulation, that the prices fixed for the southwest field whether on August 21 or at subsequent dates, were not such as to discourage the production of any coal for which transportation was available. Had they been obliged to sell their entire output during the 16 months, from September, 1917, to December, 1918, at the governmental fixed prices, the operators would have received an average margin of about 55 cents, which is about three times their average margin during 1916. As a matter of fact, due to the existence of high-priced contracts which did not expire until March 31, 1918, they actually received a much greater margin.

In connection with the study of the effect of margins on production, it is to be noted that the production between April and October, 1917 (14,374,106 tons), when the margins ranged from \$1.19 to \$1.53 per ton, was slightly exceeded by the production between April and October, 1918 (14,541,064 tons), when the margins ranged from 54 cents to 65 cents per ton.

It is probable that the larger margins obtained by the operators during April–October, 1917, might have induced the production of more coal than the much lower margins for the corresponding period

during April-October, 1918, if the transportation facilities in 1917 had been greater. As was pointed out by the Commission in its reports to Congress of May 19, 1917, and June 20, 1917, the controlling factor in the bituminous-coal situation has been transportation facilities. At that time it was pointed out that few soft-coal mines are equipped to store coal at the mines. The coal must be loaded into railroad cars as fast as it comes out of the mine. As a general rule, miners do not go into the mine unless the railroad cars necessary to take care of the day's output are at the mouth of the mine. Cars equipped to carry away the coal as fast as it can be mined are, therefore, indispensable if the production of coal is to be kept up or increased. For a variety of causes, the railroads were not able to furnish cars equal to the productive capacity of the mines.

In the Southwest Field the output does not appear to have been limited materially through a shortage of labor. Had it been possible for the existing force of labor to have worked full time, much more coal, could it have been transported, would have been mined during the war. The operators' cost and tonnage reports to the Commission show that had it been possible for the mines in the Southwest Field to have been worked during the five months of August to December, 1917, ordinary full working time with their then existing force, their production would have been increased 10 per cent.

It is evident from the foregoing facts that the extraordinarily high prices (and margins) during April-October, 1917, could not increase the output beyond the definite limit placed on production by insufficient transportation facilities. During the period April-October, 1918, when better transportation facilities were available, much smaller prices (and margins) were sufficient to call forth the desired output.

6. *Changes in the relation of the cost subdivisions to the total f. o. b. mine costs.*—The following table based on "Revised" costs shows the distribution, for varying periods, between the items of labor, supplies, and general expense of each dollar in the total f. o. b. mine cost:

TABLE 22.—*Distribution between labor, supplies, and general expense of each dollar of total f. o. b. mine cost, 1916-1918, by varying periods, and by calendar years.*

Period.	Labor.	Supplies.	General expense.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
January-March, 1917.....	65	13	22
April-August, 1917.....	68	13	19
September-October, 1917.....	68	14	18
November, 1917-March, 1918.....	71	13	16
April-December, 1918.....	72	14	14
Year 1916.....	69	10	21
Year 1917.....	68	13	19
Year 1918.....	72	14	14

The foregoing table shows that there has been little change during the three years in the relative proportions which the labor cost forms of the total f. o. b. mine cost, that the proportion which supplies forms has increased and the proportion which general expense forms has decreased.

7. *Changes in the relation of the costs to the sales realization.*—The following table shows the distribution, from time to time, between the items of labor, supplies, general expense, and margin to operator, of each dollar paid by the purchaser for coal to the operator:

TABLE 23.—*Distribution of the amount paid by the purchaser between the various principal costs and the margins, based on each dollar of sales realization, 1917–1918, by months.*

Month.	Labor.	Supplies.	General expense.	Total f. o. b. mine.	Margin.
1917.	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
January.....	47	9	16	72	28
February.....	43	9	15	67	33
March.....	43	8	14	65	35
April.....	39	6	12	57	43
May.....	35	6	10	51	49
June.....	34	6	9	49	51
July.....	34	6	10	50	50
August.....	36	8	9	53	47
September.....	37	8	9	54	46
October.....	39	8	10	57	43
November.....	47	9	10	66	34
December.....	49	11	12	72	28
1918.					
January.....	52	9	12	73	27
February.....	54	9	11	74	26
March.....	50	8	10	68	32
April.....	53	9	11	73	27
May.....	54	10	10	74	26
June.....	55	10	10	75	25
July.....	54	10	10	74	26
August.....	55	10	11	76	24
September.....	56	12	10	78	22
October.....	55	11	11	77	23
November.....	60	14	14	88	12
December.....	60	15	12	87	13

These facts are shown in graphic form in Chart 6 (opposite).

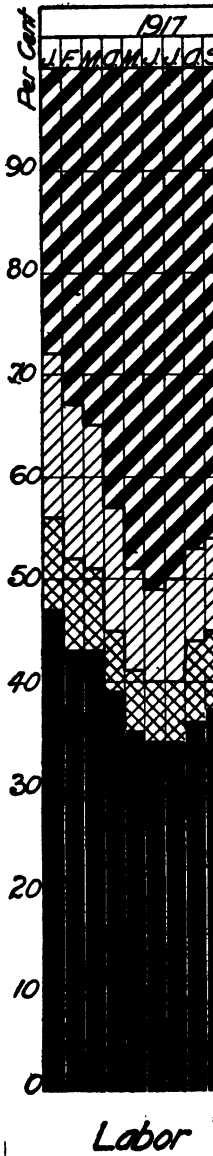
A similar table has been compiled for the periods used in the second division of Table 19 (see p. 42).

TABLE 24.—*Distribution of the amount paid by the purchaser between the various principal costs and the margin, based on each dollar of sales realization, 1916–1918, by varying periods, and by calendar years.*

Period.	Labor.	Supplies	General expense.	Total f. o. b. mine.	Margin.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
Year 1916.....	60	9	18	87	13
January–March, 1917.....	44	9	15	68	32
April–August, 1917.....	35	7	10	52	48
September–October, 1917.....	38	8	10	56	44
November, 1917–March, 1918.....	50	9	11	70	30
April–December, 1918.....	56	11	10	77	23
Year 1916.....	60	9	18	87	13
Year 1917.....	39	8	11	58	42
Year 1918.....	55	10	11	76	24

These facts are shown in graphic form in Chart 7 (opposite).

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It will be noted that the part of the amount paid by the purchaser, which went to labor, varied greatly. It was highest (60 per cent) in 1916 and lowest (35 per cent) during the period April–August, 1917, following the expiration of the 1916 contracts and just preceding the establishment of governmental regulation. For the last nine months of 1918 (April–December) when practically the entire output of the mine was subject to the price regulation of the Fuel Administration, the share of labor was 56 per cent of the amount paid by the purchaser for coal.

It will also be noted that the part of the amount paid which came to the operator—i. e., the margin, varies greatly. It was lowest (13 per cent) in 1916, and highest (48 per cent) during the period April–August, 1917. It must not, however, be supposed that such margins were all clear profit to the operators. As has been pointed out, the Commission's "Revised" cost figures exclude any charges for interest, income and excess-profits taxes, donations, etc., which are expenditures which, while not entering into operating cost, must be met from the margin; nor is there any allowance in the total f. o. b. mine cost for the expense of selling the coal.

Of the 17 operators, whose costs were obtained for 1916–1918, 13 reported a selling expense on their coal, and 4 operators did not report any. For those that did report the average "Claimed" selling expense was as follows:

	"Claimed" selling expense.	
	<i>Tons.</i>	<i>Per ton.</i>
1916.....	19,655,752	\$0.015
1917.....	19,948,940	.016
1918.....	19,405,343	.017

The "Claimed" selling expense on this tonnage varied from 0.1 of a cent to as high as 22 cents. It is evident from the figures that little dependence is to be placed on the returns of selling expense. Early in 1918 a tabulation was made of reports submitted by operators in the United States for the month of August, 1917. The facts disclosed by this tabulation follows:

Output of company during August, 1917 (tons).	Proportion of companies for which selling expense was—	
	Reported.	Not reported.
	<i>Per cent.</i>	<i>Per cent.</i>
Under 1,000.....	25	75
1,000 to 4,999.....	50	50
5,000 to 9,999.....	60	40
10,000 to 14,999.....	60	40
15,000 to 19,999.....	66	34
20,000 and over.....	75	25
Total.....	55	45

It is fair to assume that a very large part of the output of the operators which reported no selling expense (forming 45 per cent of all operators reporting) reached the consumer through the jobbers or sales agencies. Probably also a considerable fraction of the output of the remaining 55 per cent of the operators went through such channels.

That part of the output sold through jobbers is sold f. o. b. at the mine, and there is little or no selling expense to be considered, since it is taken care of in the sales realization, and would not come out of margin.

Taking into consideration the above facts, it is probable that on an average not more than $1\frac{1}{2}$ cents could be attributed to selling expense.

Considering the total investment as the amount necessary to operate the business, whether in the form of capital stock and surplus, bonds or other borrowed money, the return on the total investment in the business, after deducting the estimated selling expense from the margin and before deducting interest on borrowed money or Federal income and excess profits taxes, is shown in the following statement for the years 1916, 1917 and 1918:

	1916	1917	1918
Margin between f. o. b. mine cost and sales realization.....	\$0.170	\$1.120	\$0.600
Estimated selling expense.....	.015	.015	.015
Return on total investment, before deducting interest on borrowed money, and Federal income and excess profits taxes .....	.155	1.105	.585

Part III. THE CENTRAL FIELD OF PENNSYLVANIA.

I. Introduction.

1. *Definition of Central Field.*—The name of "Central Field" is used in this Report for the area which the Fuel Administration has described as follows: The counties of Tioga, Lycoming, Clinton, Center, Huntingdon, Bedford, Cameron, Elk, Clearfield, Cambria, Blair, Somerset, Jefferson, Indiana, Clarion, Armstrong, Butler, Mercer, Lawrence, and Beaver, and operations in Allegheny County from the lower end of Tarentum Borough north to the county line, and in Westmoreland County from a point opposite the lower end of Tarentum Borough north along the Allegheny River to the Kiskiminitas River and along the Kiskiminitas River eastward to the Conemaugh River and continuing along the Conemaugh River to the county line of Cambria County, operations on the Baltimore & Ohio Railroad from the Somerset County line to and including Indian Creek and the Indian Creek Valley branch of the Baltimore & Ohio Railroad.

2. *Size.*—There are no records available which give exactly the production, for a series of years, of the field covered by the foregoing definition. It approximately includes the bituminous coal producing counties in Pennsylvania outside of Allegheny, Fayette, Greene, Washington, and Westmoreland Counties. The following table, compiled from statistics shown in the United States Geological Survey's reports, shows the percentages which the output of these counties have formed of the total output of bituminous coal in the United States, and in Pennsylvania, during 1911–1916:

Year	United States.	Pennsylvania.
	<i>Per cent.</i>	<i>Per cent.</i>
1911.....	15	42
1912.....	14	39
1913.....	14	40
1914.....	15	43
1915.....	15	42
1916.....	14	41

II. 1918 Costs and Sales Realization.

1. *Number and extent of operations covered.*—The 1918 production of the 538 operators in this field from whom cost reports were obtained by the Commission was as follows:

	Tons.	Per cent.
425 operators from whom costs were obtained for 12 months.....	65,113,157	91.9
6 operators from whom costs were obtained for 12 months but which were excluded for various reasons.....	274,901	.4
107 operators from whom costs were obtained for less than the full 12 months (actual tonnage reported 3,443,661), estimated yearly tonnage.....	5,442,582	7.7
	70,830,640	100.0

The above figures are shown inclusive of power-house fuel for comparison with the United States Geological Survey statistics.

2. *Classification of producers by number of mines operated.*—The costs of the 425 operators shown in the tabulation for the Central Field cover the out put from 789 mines. The following table shows the number of mines operated by the different producers:

TABLE 25.—*Number of mines operated by different producers.*

Number of mines run by each operator.	Number of operators.	Proportion of total number.	1918 production tonnage.	Proportion of total production.
		<i>Per cent.</i>	<i>Tons.</i>	<i>Per cent.</i>
1 mine.....	276	65.0	19,703,765	30.8
2 mines.....	88	20.7	10,184,745	15.9
3 mines.....	23	5.4	4,106,059	6.4
4 mines.....	9	2.1	2,265,667	3.5
5 mines.....	8	1.9	4,655,999	7.3
6 mines.....	10	2.4	6,428,777	10.1
7 mines.....	3	.7	2,208,964	3.5
8 mines.....	2	.5	2,740,357	4.3
9 mines.....				
10 mines.....	1	.1	2,773,106	4.3
Over 10 mines.....	5	1.2	8,894,618	13.9
Total.....	425	100.0	63,982,057	100.0

It should be noted that 276 producers (65 per cent of the number tabulated) operated only one mine and produced about 31 per cent of the output, and that 364 producers (forming 86 per cent of the total number) operated from one to two mines and produced only about 47 per cent of the output. On the other hand, five producers (about 1 per cent of the number tabulated) operated a total of 85 mines and produced 14 per cent of the output. The average number of mines operated by a producer was, for the 425 producers, 1.8 mines. The average annual production per mine operated was about 81,067 tons for the field, 71,390 tons for the 276 one-mine operators, and 86,273 tons for the 149 operators with two or more mines.

3. *Classification of producers by size of output.*—The 425 producers are classified by size of their output in 1918, exclusive of power-house fuel, as follows:

TABLE 26.—*Classification of operators by size of output.*

	Number of operators.	Proportion of total number.	Tonnage produced, 1918.	Proportion of total production.
		<i>Per cent.</i>	<i>Tons.</i>	<i>Per cent.</i>
Under 50,000 tons.....	192	45.2	4,819,293	7.5
50,000 to 99,999 tons.....	94	22.1	6,959,294	10.9
100,000 to 499,999 tons.....	115	27.1	22,422,901	35.1
500,000 to 999,999 tons.....	13	3.1	8,417,538	13.2
1,000,000 tons and over.....	11	2.5	21,343,031	33.3
Total.....	425	100.0	63,982,057	100.0

Of the total output, 33 per cent was mined by 11 operators (forming $2\frac{1}{2}$ per cent of the total number), who produced 1,000,000 tons or over, while, on the other hand, 18 per cent of the output was mined by 286 operators (forming 67 per cent of the total number), who mined less than 100,000 tons each.

An examination of the reports of the 107 operators in the field, from whom cost reports were received for a period of less than 12 months during 1918, shows that almost all of them would fall in the class of producers of less than 50,000 tons.

Of the 3,443,661 tons actually reported by these 107 operators, 1,364,464 tons were mined by five operators, whose estimated yearly production is 1,731,612. The remaining 102 operators had an estimated yearly production of 3,710,970, or an average estimated annual production of about 36,000 tons per operator. Had reports for the whole 12 months' period been available from them, it would be found that about 73 per cent of the operators in the field produced about 22 per cent of the total output.

4. *The 1918 costs and sales realizations shown for the field.*—There was no change in the official wage scale for bituminous coal miners during 1918. Therefore, the labor costs per ton for the period were principally affected by changes in the production tonnage and not by changes in the rate of wages paid labor. It will be noted that the labor cost curves for the third and fourth quarters of 1918 are somewhat higher than for the first and second quarters; also, that the sales realization curves, while highest for the second quarter of 1918, do not vary in any quarter much from the average for the year.

The following tables—Nos. 27 to 31—show the costs and sales realizations arranged from low to high in 1-cent groupings for each period shown. Throughout the tables the costs are shown for the same 425 operators, but the costs of any given operator do not necessarily hold the same relative position in the 1-cent groups at each period. The shift of any operator in his relative position from period to period is generally slight.

The tables show for each quarter and for the year as a whole, by 1-cent groupings, the tonnage produced at that cost, its per cent of the total production, the place of the group in the accumulated percentage, and the number of companies whose costs fell within each 1-cent group.

TABLE 27.—Total "Revised" labor cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.
[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by group- ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group- ing.		Per ton cost by group- ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group- ing.		Per ton cost by group- ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group- ing.		Per ton cost by group- ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group- ing.		Per ton cost by group- ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group- ing.	
\$0.77	21,659	0.14	0.14	1		\$0.49	28,671	0.17	0.17	1		\$0.71	18,483	0.11	0.11	1		\$0.77	17,522	0.12	0.12	1		\$0.67	86,335	0.13	0.13	1	
.87	15,685	.10	.24	1		1.06	17,033	.10	.27	1		1.08	38,501	.22	.33	1		1.13	18,266	.13	.25	1		1.13	266,253	.42	.55	2	
1.01	7,843	.05	.29	1		1.09	42,448	.26	.53	1		1.09	48,940	.28	.61	1		1.09	31,100	.22	.47	1		1.15	151,700	.24	.70	1	
1.09	21,671	.13	.42	1		1.10	49,593	.30	.83	1		1.10	41,363	.21	.82	2		1.16	78,936	.55	1.02	3		1.16	138,622	.22	1.01	1	
1.10	40,927	.25	.68	1		1.11	40,258	.24	1.07	1		1.13	18,649	.11	.93	1		1.13	103,671	.72	1.74	1		1.18	415,751	.65	1.66	1	
1.12	47,401	.31	.99	1		1.12	41,348	.25	1.32	1		1.14	69,625	.40	1.33	2		1.20	32,478	.23	1.97	1		1.21	278,770	.43	2.09	2	
1.14	105,901	.38	1.37	1		1.15	48,111	.29	1.61	1		1.16	161,948	.93	2.26	2		1.22	62,208	.46	2.43	2		1.22	361,242	.56	2.65	3	
1.16	146,155	.44	1.81	1		1.16	198,810	.65	2.46	1		1.17	33,794	.19	2.45	2		1.24	24,616	.17	2.62	1		1.25	634,764	.99	3.64	3	
1.20	1,852	.03	2.02	1		1.18	20,874	.13	2.59	1		1.18	36,947	.21	2.66	1		1.26	467,794	.72	3.36	3		1.26	467,794	.72	4.36	3	
1.21	28,048	.18	2.80	1		1.19	81,134	.49	3.08	2		1.19	33,991	.20	2.86	1		1.28	89,484	.62	3.25	3		1.27	211,845	.34	4.70	2	
1.22	42,222	.27	3.07	2		1.20	187,009	1.13	4.01	4		1.20	27,084	.16	3.02	1		1.29	76,343	.53	3.78	2		1.28	16,139	.03	4.73	1	
1.23	115,460	.74	3.81	1		1.21	31,497	.19	4.20	1		1.21	37,593	.22	3.24	1		1.30	35,267	.24	4.02	1		1.29	192,063	.13	4.88	2	
1.24	43,767	.28	4.09	2		1.22	86,988	.53	4.73	3		1.22	40,003	.04	3.28	1		1.31	1,351	.04	4.12	2		1.30	158,528	.25	5.13	2	
1.25	37,805	.24	4.33	2		1.24	31,304	.19	4.92	1		1.24	59,628	.29	3.57	1		1.32	80,614	.56	4.16	1		1.31	683,737	1.07	6.20	3	
1.26	32,104	.21	4.54	1		1.26	3,569	.02	4.94	1		1.26	106,351	.61	4.18	2		1.33	80,614	.56	4.72	1		1.32	1,267,929	1.94	8.14	2	
1.27	328,905	2.12	6.66	3		1.27	331,272	1.99	6.93	1		1.28	127,634	.72	4.90	3		1.34	241,516	1.68	6.40	2		1.34	281,051	.44	8.58	3	
1.28	24,715	.16	6.82	1		1.28	135,757	.81	7.74	3		1.29	145,283	.84	5.74	2		1.35	109,012	.76	7.16	1		1.35	1,523,738	2.37	10.95	2	
1.29	124,262	.81	7.63	6		1.29	211,148	1.27	9.01	4		1.30	12,516	.07	5.81	1		1.36	80,986	.57	7.73	2		1.36	1,190,405	1.76	12.71	4	
1.30	14,853	.73	7.73	1		1.30	61,341	.37	9.38	2		1.30	88,513	.51	6.32	3		1.38	30,986	.27	7.95	2		1.37	398,500	.64	13.35	3	
1.31	453,372	2.91	10.64	4		1.31	225,401	1.35	10.73	1		1.32	57,563	.50	11.33	6		1.39	69,095	.48	8.43	3		1.38	439,515	.69	14.04	4	
1.32	100,448	.65	11.29	4		1.32	177,039	1.05	11.78	5		1.33	253,468	1.46	12.79	8		1.40	42,467	.30	8.73	2		1.39	103,087	.16	14.20	1	
1.33	322,053	2.06	13.35	5		1.33	102,075	.61	12.39	5		1.34	37,176	.22	13.01	2		1.41	70,404	.49	9.22	2		1.40	1,289,643	2.02	16.22	2	
1.34	390,498	1.97	15.32	4		1.34	316,040	1.89	14.28	5		1.35	167,871	.97	13.98	4		1.42	105,852	.74	9.96	1		1.41	459,159	.72	16.94	2	
1.35	48,451	.31	15.63	2		1.35	450,301	2.70	16.98	3		1.36	44,780	.26	14.24	1		1.43	219,092	1.52	11.48	3		1.42	4,398,566	6.83	23.77	7	
1.36	5,005	.03	15.66	1		1.36	112,121	.68	17.66	5		1.37	121,789	.70	14.94	4		1.44	425,733	2.96	14.44	4		1.43	327,625	.51	24.28	4	

1.37	49,029	.33	15.98	1.37	108,212	.65	18.31	1.38	399,640	2.08	17.02	1.45	64,138	.37	14.81	1.44	1,290,470	1.99	28.27	9
1.38	125,812	.80	16.78	1.39	254,069	1.53	19.84	1.40	302,918	1.98	19.00	1.41	72,921	.51	15.23	1.42	2,427,293	3.80	30.07	6
1.39	1,307,921	8.41	25.19	1.40	1,131,832	6.78	26.62	1.41	1,049,888	1.98	19.00	1.42	72,921	.51	15.23	1.43	2,427,293	3.80	30.07	6
1.40	336,554	2.08	27.81	1.41	1,086,628	.65	27.89	1.42	1,148,597	.86	28.58	1.43	108,907	.75	22.56	1.44	3,177,896	2.62	34.27	8
1.41				1.42	691,086	4.16	31.70	1.43	572,060	3.31	28.89	1.44	45,034	.31	23.61	1.45	3,322,735	5.20	38.47	6
1.42	554,559	3.56	31.37	1.43	763,051	4.58	36.28	1.44	480,513	2.34	31.23	1.45	64,763	.45	24.06	1.46	1,458,944	2.29	41.76	6
1.43	649,211	4.19	37.89	1.44	94,158	5.57	38.85	1.45	280,278	1.61	32.84	1.46	390,705	2.70	26.76	1.47	802,360	1.25	43.01	6
1.44	112,045	.72	38.11	1.45	750,060	4.50	41.35	1.46	281,765	1.61	34.45	1.47	51,731	.35	30.56	1.48	701,065	1.10	44.11	6
1.45	88,504	.57	38.68	1.46	1,360,852	.77	42.12	1.47	217,178	1.25	35.70	1.48	41,936	.29	30.84	1.49	516,368	.80	44.91	7
1.46				1.47	188,172	1.14	43.26	1.48	67,812	.39	36.09	1.49	47,369	.33	30.97	1.50	628,760	.98	45.89	6
1.47	633,724	4.21	42.89	1.48	175,723	1.05	44.31	1.49	202,088	1.16	37.29	1.50	74,424	.61	31.48	1.51	1,008,501	1.58	47.59	1
1.48	106,604	.69	43.58	1.49	145,622	.88	45.19	1.50	753,350	4.34	41.59	1.51	893,049	6.20	37.68	1.52	1,008,501	1.58	47.59	1
1.49	192,727	1.49	44.82	1.50	226,165	1.35	46.85	1.51	301,917	.12	41.71	1.52	137,963	.96	38.64	1.53	1,286,738	2.01	49.60	6
1.50	504,828	3.81	45.06	1.51	1,466,354	.31	46.86	1.52	386,067	2.20	43.91	1.53	394,126	2.11	40.75	1.54	3,563,265	5.57	55.17	9
1.51	67,003	.44	45.50	1.52	112,736	.68	47.53	1.53	398,876	2.30	46.21	1.54	12,001	.08	40.83	1.55	839,324	1.28	56.45	6
1.52	67,649	.44	48.94	1.53	112,451	.68	48.21	1.54	398,876	2.30	46.21	1.55	432,449	3.15	50.24	1.56	665,803	1.05	57.50	6
1.53	82,800	.50	49.54	1.54	160,353	.85	49.21	1.55	398,876	2.30	46.21	1.56	432,449	3.15	50.24	1.57	837,334	.56	58.06	3
1.54	635,727	1.49	50.00	1.55	160,353	.85	49.21	1.56	398,876	2.30	46.21	1.57	837,334	.56	58.06	1.58	1,044,588	1.63	60.00	3
1.55	21,563	.14	53.14	1.56	176,738	1.58	51.13	1.57	664,151	3.81	52.19	1.58	56,961	.39	47.09	1.59	1,044,588	1.63	60.00	3
1.56	82,275	2.21	55.34	1.57	1,466,354	.31	46.86	1.58	398,876	2.30	46.21	1.59	432,449	3.15	50.24	1.60	1,044,588	1.63	60.00	3
1.57	100,900	.66	56.00	1.58	414,910	2.48	53.61	1.59	130,073	.80	52.99	1.60	432,449	3.15	50.24	1.61	1,044,588	1.63	60.00	3
1.58	26,847	.19	57.13	1.59	25,168	.18	53.79	1.60	224,971	1.32	54.31	1.61	432,449	3.15	50.24	1.62	1,044,588	1.63	60.00	3
1.59	773,894	1.34	57.42	1.60	62,068	.27	54.16	1.61	553,911	3.16	57.49	1.62	432,449	3.15	50.24	1.63	1,044,588	1.63	60.00	3
1.60	196,071	1.25	63.67	1.61	176,738	1.58	51.13	1.62	1,466,354	.31	46.86	1.63	432,449	3.15	50.24	1.64	1,044,588	1.63	60.00	3
1.61				1.62	1,466,354	.31	46.86	1.63	37,378	.23	53.97	1.64	432,449	3.15	50.24	1.65	1,044,588	1.63	60.00	3
1.62	965,235	6.20	69.87	1.63	139,217	.84	66.64	1.64	244,816	1.42	59.99	1.65	432,449	3.15	50.24	1.66	1,044,588	1.63	60.00	3
1.63	347,507	2.28	72.10	1.64	372,858	2.24	68.88	1.65	162,308	.94	60.93	1.66	432,449	3.15	50.24	1.67	1,044,588	1.63	60.00	3
1.64	198,479	1.37	73.65	1.65	297,338	1.57	70.45	1.66	142,620	.81	61.74	1.67	432,449	3.15	50.24	1.68	1,044,588	1.63	60.00	3
1.65	134,080	.57	74.52	1.66	853,616	5.13	75.58	1.67	175,074	6.77	68.51	1.68	432,449	3.15	50.24	1.69	1,044,588	1.63	60.00	3
1.66				1.67	113,626	.68	76.26	1.68	23,717	.13	68.64	1.69	432,449	3.15	50.24	1.70	1,044,588	1.63	60.00	3
1.67	132,418	.85	75.37	1.68	63,721	.38	76.64	1.69	62,555	.36	69.00	1.70	432,449	3.15	50.24	1.71	1,044,588	1.63	60.00	3
1.68	64,645	.32	75.69	1.69	53,738	.31	76.95	1.70	257,261	1.48	70.48	1.71	432,449	3.15	50.24	1.72	1,044,588	1.63	60.00	3
1.69	99,474	.64	76.75	1.70	79,755	.45	77.43	1.71	55,338	.32	70.80	1.72	432,449	3.15	50.24	1.73	1,044,588	1.63	60.00	3
1.70	119,276	.77	77.56	1.71	319,755	1.92	79.35	1.72	55,338	.32	70.80	1.73	432,449	3.15	50.24	1.74	1,044,588	1.63	60.00	3
1.71				1.72	335,666	2.13	81.48	1.73	179,807	1.03	72.04	1.74	432,449	3.15	50.24	1.75	1,044,588	1.63	60.00	3
1.72	322,008	2.07	82.06	1.73	105,818	.63	82.16	1.74	899,590	5.01	77.05	1.75	432,449	3.15	50.24	1.76	1,044,588	1.63	60.00	3
1.73	92,608	.59	80.65	1.74	24,013	.15	82.31	1.75	96,059	.55	78.04	1.76	432,449	3.15	50.24	1.77	1,044,588	1.63	60.00	3
1.74	64,543	.42	81.67	1.75	60,489	.38	82.67	1.76	115,260	.66	78.70	1.77	432,449	3.15	50.24	1.78	1,044,588	1.63	60.00	3
1.75	16,171	.10	81.17	1.76	19,018	.11	82.78	1.77	481,017	2.77	81.47	1.78	432,449	3.15	50.24	1.79	1,044,588	1.63	60.00	3
1.76				1.77	75,873	.46	83.24	1.78	85,001	.49	81.96	1.79	432,449	3.15	50.24	1.80	1,044,588	1.63	60.00	3
1.77	85,109	.55	82.79	1.78	159,986	.96	84.20	1.79	42,029	.24	82.00	1.80	432,449	3.15	50.24	1.81	1,044,588	1.63	60.00	3
1.78	138,657	.89	83.82	1.79	34,063	.20	84.40	1.80	81,899	.81	82.83	1.81	432,449	3.15	50.24	1.82	1,044,588	1.63	60.00	3
1.79	76,159	.49	84.31	1.80	55,967	.34	84.74	1.81	26,126	.16	82.83	1.82	432,449	3.15	50.24	1.83	1,044,588	1.63	60.00	3
1.80				1.81	108,543	1.03	85.77	1.82	60,928	.36	83.19	1.83	432,449	3.15	50.24	1.84	1,044,588	1.63	60.00	3
1.81				1.82				1.83				1.84	432,449	3.15	50.24	1.85	1,044,588	1.63	60.00	3
1.82				1.83				1.84				1.85	432,449	3.15	50.24	1.86	1,044,588	1.63	60.00	3
1.83				1.84				1.85				1.86	432,449	3.15	50.24	1.87	1,044,588	1.63	60.00	3
1.84				1.85				1.86				1.87	432,449	3.15	50.24	1.88	1,044,588	1.63	60.00	3
1.85				1.86				1.87				1.88	432,449	3.15	50.24	1.89	1,044,588	1.63	60.00	3
1.86				1.87				1.88				1.89	432,449	3.15	50.24	1.90	1,044,588	1.63	60.00	3
1.87				1.88				1.89				1.90	432,449	3.15	50.24	1.91	1,044,588	1.63	60.00	3
1.88				1.89				1.90				1.91	432,449	3.15	50.24	1.92	1,044,588	1.63	60.00	3
1.89				1.90				1.91				1.92	432,449	3.15	50.24	1.93	1,044,588	1.63	60.00	3
1.90				1.91				1.92				1.93	432,449	3.15	50.24	1.94	1,044,588	1.63	60.00	3
1.91				1.92				1.93				1.94	432,449	3.15	50.24	1.95	1,044,588	1.63	60.00	3
1.92				1.93				1.94				1.95	432,449	3.15	50.24	1.96	1,044,588	1.63	60.00	3
1.93				1.94				1.95				1.96	432,449	3.15	50.24	1.97	1,044,588	1.63	60.00	3
1.94				1.95				1.96				1.97	432,449	3.15	50.24	1.98	1,044,588	1.63	60.00	3
1.95				1.96				1.97				1.98	432,449	3.15	50.24	1.99	1,044,588	1.63	60.00	3
1.96				1.97				1.98				1.99	432,449	3.15	50.24	2.00	1,044,588	1.63	60.00	3
1.97				1.98				1.99				2.00	432,449	3.15	50.24					

TABLE 27.—Total "Revised" labor cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.	Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-pan-ies by group-ing.
\$1.82	5,006	0.03	84.34	1	\$1.82	31,425	0.18	85.95	4	\$1.83	180,621	1.05	84.24	5	\$1.90	69,850	0.49	78.08	4	\$1.89	476,928	0.75	86.83	5	\$1.89	476,928	0.75	86.83	5
1.83	2,454	.02	84.36	1	1.84	41,956	.24	84.48	2	1.91	50,658	.35	78.43	2	1.91	50,658	.35	78.43	2	1.90	186,398	.28	87.11	3	1.90	186,398	.28	87.11	3
1.84	139,727	.83	86.79	4	1.89	14,469	.08	84.56	2	1.92	71,843	.49	78.92	6	1.92	71,843	.49	78.92	6	1.91	108,672	.17	87.28	5	1.91	108,672	.17	87.28	5
1.85	23,519	.12	84.63	4	1.89	63,880	.39	87.18	3	1.93	99,401	.69	80.61	6	1.93	99,401	.69	80.61	6	1.92	498,933	.78	88.06	5	1.92	498,933	.78	88.06	5
1.86	180,264	1.15	85.80	5	1.87	27,064	.16	85.40	2	1.94	64,744	.44	81.05	5	1.94	64,744	.44	81.05	5	1.93	261,099	.41	88.47	3	1.93	261,099	.41	88.47	3
1.87	17,218	.11	85.91	3	1.87	12,016	.07	87.75	2	1.88	12,924	.08	85.48	2	1.85	92,346	.64	81.69	2	1.94	181,010	.29	88.78	4	1.94	181,010	.29	88.78	4
1.88	68,185	.43	86.44	5	1.88	33,950	.21	87.96	3	1.89	108,196	.62	86.10	5	1.90	82,426	.57	82.26	7	1.93	23,126	.04	88.80	1	1.93	23,126	.04	88.80	1
1.89	55,999	.33	86.77	6	1.89	94,346	.64	86.64	6	1.90	94,346	.64	86.64	6	1.90	604,113	4.20	86.46	7	1.96	132,202	.21	89.01	1	1.96	132,202	.21	89.01	1
1.90	180,220	1.17	87.84	4	1.90	104,377	.60	87.24	6	1.93	96,303	.39	86.85	3	1.97	82,560	.58	87.43	8	1.97	37,016	.09	89.10	3	1.97	37,016	.09	89.10	3
1.91	38,530	.25	88.09	2	1.92	28,089	.17	90.88	3	1.92	45,165	.27	87.31	4	1.99	82,560	.58	87.43	8	1.98	86,311	.06	89.16	1	1.98	86,311	.06	89.16	1
1.92	54,513	.35	88.44	5	1.94	10,038	.06	90.64	2	1.93	59,546	.35	87.86	6	2.00	36,354	.25	87.68	4	1.99	389,252	.60	89.76	3	1.99	389,252	.60	89.76	3
1.93	206,697	1.33	89.77	4	1.95	15,886	.10	90.74	2	1.83	28,848	.18	88.02	3	2.01	0,741	.08	87.76	3	2.00	183,413	.28	90.94	7	2.00	183,413	.28	90.94	7
1.94	40,644	.26	90.03	2	1.96	66,982	.40	91.14	3	1.95	64,245	.37	88.30	3	2.02	86,126	.67	88.43	3	2.01	688,024	1.09	91.13	4	2.01	688,024	1.09	91.13	4
1.95	10,288	.07	90.10	1	1.97	24,721	.15	91.29	3	1.96	69,574	.36	88.75	4	2.03	30,247	.21	88.04	3	2.02	100,799	.15	91.28	3	2.02	100,799	.15	91.28	3
1.96	85,269	.54	90.64	3	1.98	15,732	.09	91.88	3	1.98	210,554	1.21	89.96	3	2.05	59,629	.41	89.05	3	2.03	19,617	.03	91.31	1	2.03	19,617	.03	91.31	1
1.97	88,208	.57	91.21	3	1.99	2,379	.01	91.39	1	1.99	108,207	.62	90.58	5	2.05	4,822	.03	89.08	1	2.04	123,592	.17	91.48	3	2.04	123,592	.17	91.48	3
1.98	70,773	.46	91.67	6	2.00	52,557	.31	91.70	6	2.00	84,607	.49	91.07	5	2.06	3,714	.03	89.11	1	2.05	416,549	.66	92.17	5	2.05	416,549	.66	92.17	5
1.99	81,237	.51	92.18	6	2.02	37,836	.22	91.92	3	2.01	62,110	.37	91.07	4	2.09	29,870	.21	89.32	4	2.06	163,537	.25	92.36	3	2.06	163,537	.25	92.36	3
2.00	24,166	.16	92.34	3	2.04	36,509	.22	92.14	3	2.02	21,150	.12	91.56	3	2.10	52,331	.37	89.68	3	2.07	98,663	.11	92.50	2	2.07	98,663	.11	92.50	2
2.01	7,625	.05	92.39	2	2.05	24,390	.15	92.29	3	2.03	37,248	.22	91.78	4	2.11	109,219	.73	90.42	6	2.08	27,377	.04	92.54	2	2.08	27,377	.04	92.54	2
2.02	12,461	.08	92.47	2	2.06	26,719	.16	92.45	3	2.04	178,086	1.01	92.70	4	2.12	26,357	.18	90.60	3	2.09	10,415	.02	92.56	1	2.09	10,415	.02	92.56	1
2.03	19,132	.12	92.59	2	2.07	41,284	.25	92.70	3	2.05	87,301	.51	93.30	7	2.13	5,971	.04	90.64	1	2.10	328,242	.53	93.07	6	2.10	328,242	.53	93.07	6
2.04	2,458	.02	92.61	1	2.08	4,980	.03	92.73	1	2.06	13,763	.08	93.38	3	2.14	21,301	.15	90.79	2	2.11	94,946	.15	93.22	3	2.11	94,946	.15	93.22	3
2.05	67,586	.43	93.04	3	2.09	5,181	.03	92.76	1	2.07	39,391	.19	93.37	3	2.15	31,598	.22	91.01	3	2.12	133,363	.27	93.43	3	2.12	133,363	.27	93.43	3
2.06	28,010	.18	93.22	5	2.10	141,559	.85	93.61	5	2.08	10,421	.06	93.63	2	2.16	42,080	.30	91.31	3	2.13	359,146	.57	94.00	6	2.13	359,146	.57	94.00	6

2.07	29,489	19	93.41	4	2.11	32,191	19	93.80	2	2.09	14,545	08	93.71	1	2.17	14,421	10	91.41	3	2.14	388,010	61	94.61	3
2.08	27,179	18	93.59	2	2.13	4,265	08	93.83	1	2.10	8,094	05	93.76	2	2.18	92,445	04	92.05	2	2.15	47,191	07	94.68	1
2.09	4,480	08	93.62	2	2.14	10,769	07	93.90	2	2.11	17,894	10	93.86	2	2.19	50,855	35	92.40	4	2.16	217,888	34	95.02	2
2.10	9,886	06	93.68	2	2.15	54,475	33	94.23	2	2.12	25,055	15	94.01	2	2.20	3,436	02	92.42	1	2.17	19,345	03	96.05	1
2.11	95,693	62	94.30	2	2.16	24,405	14	94.37	2	2.13	5,240	03	94.04	1	2.21	5,204	04	92.46	1	2.18	698,026	1.10	96.15	3
2.12	20,133	13	94.43	2	2.17	14,727	10	94.47	4	2.14	36,538	32	94.25	4	2.22	30,891	21	92.07	3	2.19	22,935	04	96.19	1
2.13	4,058	40	94.46	5	2.18	108,817	65	95.12	5	2.16	55,587	32	94.57	3	2.23	82,208	09	96.28	3	2.20	56,142	09	96.28	1
2.14	62,210	40	94.86	2	2.19	85,811	52	95.64	2	2.17	81,248	23	95.04	3	2.24	123,323	85	94.10	4	2.21	147,652	28	96.56	2
2.15	33,424	22	94.21	2	2.20	84,211	51	96.15	2	2.18	15,927	09	95.13	2	2.25	5,571	04	94.14	4	2.22	32,235	05	96.56	2
2.16	98,792	63	95.70	4	2.22	29,026	17	96.32	3	2.20	60,382	34	95.47	2	2.26	60,233	43	94.57	3	2.23	75,080	12	96.68	3
2.17	34,164	22	95.92	2	2.23	10,773	07	96.39	2	2.21	29,917	17	95.64	3	2.27	10,634	07	94.04	2	2.24	18,758	03	96.71	1
2.18	2,292	32	96.25	2	2.25	12,705	08	96.47	2	2.22	50,801	29	95.93	3	2.28	47,440	33	94.97	3	2.26	13,339	02	96.73	1
2.19	50,962	32	96.25	4	2.26	61,161	37	96.84	3	2.25	7,336	04	95.97	1	2.29	38,978	26	95.23	4	2.27	47,521	07	96.80	2
2.20	40,465	20	96.52	4	2.27	12,235	07	96.91	1	2.26	82,851	48	96.45	1	2.30	2,063	02	95.25	1	2.28	111,198	17	96.97	2
2.21	57,624	37	96.89	1	2.28	5,023	03	96.94	1	2.27	4,955	03	96.48	1	2.32	19,478	13	95.38	3	2.29	21,660	03	97.00	1
2.22	5,379	04	96.93	1	2.29	21,338	13	97.07	4	2.28	9,103	05	96.53	1	2.34	109,777	76	96.14	1	2.30	54,982	09	97.09	2
2.23	10,768	07	97.00	2	2.30	5,853	04	97.11	1	2.29	18,550	11	96.64	2	2.35	30,264	21	96.35	3	2.31	224,918	34	97.43	3
2.24	4,273	03	97.03	1	2.31	9,521	06	97.17	2	2.30	3,273	02	96.66	1	2.36	1,376	01	96.36	2	2.32	54,707	09	97.52	2
2.25	4,147	03	97.06	1	2.32	62,084	38	97.55	3	2.31	68,915	40	97.06	3	2.37	185,348	1.29	97.65	4	2.33	35,971	06	97.58	2
2.26	64,086	41	97.47	1	2.35	64,627	39	97.94	2	2.33	38,650	22	97.28	2	2.38	4,226	03	97.68	1	2.34	182,700	29	97.87	1
2.27	107,146	70	98.17	5	2.37	21,068	12	98.06	1	2.34	76,086	43	97.71	2	2.39	6,296	04	97.72	1	2.35	34,565	06	97.92	1
2.28	1,944	01	98.18	1	2.38	23,622	14	98.20	1	2.35	21,047	12	97.83	1	2.40	16,692	11	97.83	3	2.36	20,456	03	97.95	1
2.29	18,432	12	98.30	1	2.39	3,819	02	98.22	1	2.36	4,553	03	97.86	1	2.42	6,956	05	97.88	2	2.40	93,541	14	98.09	2
2.30	15,859	10	98.40	2	2.40	12,543	08	98.30	2	2.38	188,177	1.08	98.94	5	2.43	10,914	08	97.96	1	2.41	147,518	23	98.32	2
2.31	3,007	02	98.42	1	2.42	3,010	02	98.32	1	2.40	4,067	02	98.96	1	2.44	39,868	28	96.24	1	2.42	263,327	42	98.74	2
2.32	2,849	02	98.44	1	2.44	27,742	17	98.49	4	2.41	19,089	11	98.07	2	2.45	4,481	03	98.27	1	2.44	42,673	07	98.81	1
2.33	2,968	02	98.46	1	2.46	4,162	02	98.51	2	2.42	57,244	33	98.40	2	2.47	9,487	07	98.34	2	2.45	27,938	04	98.85	1
2.34	2,061	03	98.51	2	2.50	3,787	02	98.53	1	2.43	3,979	04	98.42	1	2.50	2,870	02	98.36	1	2.46	24,806	04	98.89	2
2.35	12,858	03	98.52	1	2.53	27,059	16	98.59	2	2.45	7,674	04	98.46	2	2.51	2,444	02	98.38	2	2.47	16,804	03	98.92	1
2.36	2,849	03	98.56	1	2.56	62,851	37	98.06	2	2.46	2,859	01	98.47	1	2.52	5,786	41	98.79	2	2.48	9,746	02	98.94	1
2.37	29,204	09	98.79	1	2.57	2,255	01	98.07	1	2.48	6,637	01	98.48	1	2.53	1,272	01	98.80	1	2.50	20,460	03	98.97	1
2.38	4,568	09	98.82	1	2.58	5,685	03	98.51	1	2.50	6,597	03	98.51	1	2.56	1,274	01	98.81	1	2.51	12,622	02	98.99	1
2.39	3,078	02	98.84	1	2.62	130,684	79	98.89	2	2.53	6,597	04	98.51	1	2.58	15,789	11	98.81	2	2.54	529,973	03	99.01	2
2.40	3,772	02	98.86	2	2.63	4,148	03	98.92	1	2.60	3,420	02	98.57	1	2.60	27,198	19	98.11	3	2.56	17,488	03	99.04	1
2.41	4,308	03	98.89	1	2.74	4,512	03	98.95	1	2.61	19,267	11	98.68	1	2.61	7,223	03	98.16	1	2.64	16,917	03	99.87	1
2.42	29,709	17	99.06	1	2.81	6,468	04	98.99	1	2.62	2,214	01	98.69	1	2.62	38,414	03	98.19	2	2.77	38,414	06	99.88	1
2.43	3,447	02	99.08	1	2.82	1,727	01	100.00	1	2.62	5,002	02	98.72	1	2.63	2,298	02	98.21	1	2.79	27,765	04	99.87	1
2.44	5,988	03	99.11	1	2.70	10,276	06	98.73	3	2.70	13,141	03	98.73	3	2.64	13,141	02	98.30	2	2.82	12,276	02	99.89	1
2.45	12,120	06	99.15	2	2.73	3,025	02	98.80	1	2.73	3,025	02	98.80	1	2.67	37,966	27	98.57	2	2.85	6,831	01	100.00	1
2.46		06	99.23	2	2.74	13,698	08	99.88	1	2.74	13,698	08	99.88	1	2.76	1,682	01	99.58	1					

TABLE 27.—Total "Revised" labor cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.					
Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of mines by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of mines by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of mines by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of mines by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of mines by group-ing.	
\$2.68	2,206	0.01	99.24	1					1	\$2.77	4,898	0.03	99.61	2						2					
2.72	1,858	.01	99.25	1	2.76	4,284	.02	99.90	1	2.79	3,209	.06	99.67	1	2.81	14,533	.10	99.77	1	2.83	6,535	.04	99.81	1	
2.75	1,371	.01	99.26	1	2.94	3,251	.02	99.91	1	2.81	14,533	.10	99.77	1	2.89	2,479	.02	99.83	1	2.90	1,858	.01	99.84	1	
2.79	4,860	.03	99.28	1	3.00	1,838	.01	99.99	1	3.00	1,838	.01	99.99	1											
2.82	4,883	.03	99.32	1	3.08	1,348	.01	100.00	1																
2.88	2,132	.01	99.33	1																					
2.98	94,511	.62	99.95	1						3.21	16,034	.11	99.95	2	3.21	16,034	.11	99.95	2						
3.14	3,790	.02	99.97	1						3.40	3,374	.02	99.97	1	3.40	3,374	.02	99.97	1						
3.44	2,620	.02	99.99	1						3.44	3,564	.02	99.99	1	3.44	3,564	.02	99.99	1						
3.52	1,237	.01	100.00	1						3.47	3,778	.01	100.00	1	3.47	3,778	.01	100.00	1						
1.58	15,548,832	100.00	100.00	425	\$1.57	16,653,747	100.00	100.00	425	1.61	17,387,226	100.00	100.00	425	1.71	14,392,252	100.00	100.00	425	\$1.62	63,962,037	100.00	100.00	425	

TABLE 28.—Total "Revised" supply cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.
[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.
.....	31,481	0.20	0.20	6	.....	27,040	0.16	0.16	5	.....	39,572	0.21	0.21	7	.....	27,350	0.19	0.19	6	.....	66,721	0.10	0.10	3	.....	66,721	0.10	0.10	3
\$0.02	22,921	0.15	0.35	3	\$0.01	9,741	0.05	0.22	1	\$0.01	5,582	0.03	0.24	1	\$0.01	3,721	0.03	0.22	1	\$0.01	49,492	0.07	0.17	3	\$0.01	49,492	0.07	0.17	3
0.03	10,912	0.07	0.42	3	0.02	3,890	0.02	0.24	1	0.02	5,004	0.03	0.27	1	0.02	13,003	0.09	0.31	3	0.02	37,777	0.06	0.23	2	0.02	37,777	0.06	0.23	2
0.04	19,990	0.13	0.55	2	0.03	48,724	0.29	0.53	3	0.03	43,719	0.25	0.52	2	0.03	6,580	0.04	0.35	1	0.04	54,600	0.08	0.31	2	0.04	54,600	0.08	0.31	2
0.05	33,130	0.22	0.77	2	0.04	55,761	0.35	0.88	6	0.05	64,520	0.37	0.89	3	0.04	6,296	0.04	0.39	1	0.05	65,613	0.10	0.41	2	0.05	65,613	0.10	0.41	2
0.06	71,166	0.46	1.23	4	0.05	108,511	0.65	1.53	4	0.06	102,485	0.61	1.50	9	0.05	51,763	0.35	0.74	3	0.06	166,048	0.26	0.67	5	0.06	166,048	0.26	0.67	5
0.07	334,638	2.14	3.37	12	0.06	365,698	2.22	1.75	4	0.07	14,395	0.08	1.58	3	0.06	14,170	0.10	0.84	2	0.08	177,808	0.27	0.94	3	0.08	177,808	0.27	0.94	3
0.08	118,718	0.77	4.14	10	0.07	565,875	3.35	2.10	6	0.08	304,071	1.77	3.35	4	0.07	12,290	0.09	0.93	2	0.09	497,731	0.77	1.71	8	0.09	497,731	0.77	1.71	8
0.09	117,482	0.76	4.90	10	0.08	97,828	0.59	2.69	7	0.09	50,517	0.28	3.63	4	0.08	23,218	0.16	1.09	3	0.10	275,508	0.43	2.14	4	0.10	275,508	0.43	2.14	4
0.10	515,007	3.30	8.20	9	0.09	287,340	1.71	4.40	8	0.10	321,024	1.82	5.45	11	0.09	3,572	0.03	1.12	1	0.11	1,984,850	3.09	5.23	9	0.11	1,984,850	3.09	5.23	9
0.11	581,742	3.75	11.95	8	0.10	145,539	0.85	5.26	9	0.11	118,279	0.69	6.14	8	0.10	8,245	0.05	1.17	2	0.12	930,237	1.45	6.68	12	0.12	930,237	1.45	6.68	12
0.12	52,107	0.34	12.29	6	0.11	491,362	2.96	8.22	10	0.12	285,738	1.64	7.78	13	0.11	16,741	0.11	1.28	3	0.13	709,913	1.12	7.80	13	0.13	709,913	1.12	7.80	13
0.13	715,311	4.62	16.91	19	0.12	184,432	1.12	9.34	9	0.13	226,929	1.31	9.09	14	0.12	135,065	0.93	2.21	7	0.14	255,219	1.39	8.19	7	0.14	255,219	1.39	8.19	7
0.14	486,349	3.13	20.04	14	0.13	598,770	3.41	12.75	16	0.14	109,918	0.97	10.06	11	0.13	229,905	1.60	3.81	15	0.15	981,535	1.54	9.73	10	0.15	981,535	1.54	9.73	10
0.15	469,053	3.01	23.05	18	0.14	601,608	3.62	16.37	15	0.15	376,108	2.16	12.22	14	0.14	164,679	1.13	4.94	9	0.16	1,078,106	1.69	11.42	12	0.16	1,078,106	1.69	11.42	12
0.16	221,850	1.44	24.49	14	0.15	485,838	2.90	16.66	8	0.16	411,492	2.37	14.59	16	0.15	79,889	0.56	5.50	11	0.17	1,446,100	2.26	13.68	14	0.17	1,446,100	2.26	13.68	14
0.17	306,480	1.95	26.44	15	0.16	232,089	1.40	18.06	10	0.17	783,191	4.48	19.07	13	0.16	133,369	0.93	6.43	11	0.18	2,809,766	4.39	18.07	13	0.18	2,809,766	4.39	18.07	13
0.18	385,531	2.57	29.01	15	0.17	238,386	1.44	19.50	11	0.18	207,743	1.21	20.28	12	0.17	619,252	2.29	10.72	11	0.19	1,602,438	2.50	20.57	13	0.19	1,602,438	2.50	20.57	13
0.19	601,525	3.85	32.86	18	0.18	356,104	2.12	21.62	11	0.19	287,819	1.65	21.93	11	0.18	813,788	4.28	12.90	11	0.20	2,517,922	3.94	24.51	18	0.20	2,517,922	3.94	24.51	18
0.20	1,697,761	10.92	43.78	20	0.19	878,539	5.27	26.89	20	0.20	419,869	2.45	24.36	13	0.19	74,174	0.52	13.42	6	0.21	2,047,505	3.22	27.73	18	0.21	2,047,505	3.22	27.73	18
0.21	593,279	3.39	47.17	16	0.20	808,427	4.86	31.75	17	0.21	650,037	3.75	28.11	10	0.20	49,480	0.35	13.77	3	0.22	1,332,211	2.08	29.81	12	0.22	1,332,211	2.08	29.81	12
0.22	260,453	1.65	48.82	11	0.21	1,022,723	7.28	39.03	20	0.22	932,283	5.45	33.59	18	0.21	275,224	1.91	15.68	13	0.23	4,774,813	7.48	37.29	16	0.23	4,774,813	7.48	37.29	16
0.23	222,228	1.42	50.24	13	0.22	1,022,723	7.28	39.03	20	0.23	853,674	5.45	33.59	18	0.22	215,530	1.50	17.18	12	0.24	9,651,651	1.46	38.75	13	0.24	9,651,651	1.46	38.75	13
0.24	718,445	4.81	55.05	11	0.23	345,653	2.07	41.10	9	0.24	358,127	1.94	41.18	11	0.23	394,654	1.98	18.16	6	0.25	3,319,435	5.19	43.94	11	0.25	3,319,435	5.19	43.94	11
0.25	944,380	6.11	61.30	15	0.24	277,351	1.60	51.31	9	0.25	187,441	1.08	42.26	8	0.24	297,732	2.06	20.22	14	0.26	4,038,892	6.35	50.28	11	0.26	4,038,892	6.35	50.28	11

TABLE 28.—Total "Revised" cost, by quarterly and yearly periods for 1918, for 495 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.							April-June, 1918, inclusive.							July-September, 1918, inclusive.							October-December, 1918, inclusive.							Year, 1918.						
Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.
\$0.26	572,963	3.65	70.90	14	\$0.25	391,479	2.36	56.67	12	\$0.26	741,041	4.27	46.53	7	\$0.25	141,042	0.98	21.20	8	\$0.27	1,275,085	2.00	52.29	12	\$0.27	1,275,085	2.00	52.29	12	\$0.27	1,275,085	2.00	52.29	12
.27	235,571	1.52	72.47	9	.26	685,880	4.12	60.79	12	.27	728,076	4.21	50.74	13	.26	282,072	1.97	23.17	9	.28	2,576,450	4.02	55.31	15	.28	2,576,450	4.02	55.31	15	.28	2,576,450	4.02	55.31	15
.28	152,820	.98	73.45	10	.27	254,767	1.54	62.33	11	.28	583,492	3.38	54.12	15	.27	790,974	5.51	28.68	14	.29	1,051,229	1.63	57.94	13	.29	1,051,229	1.63	57.94	13	.29	1,051,229	1.63	57.94	13
.29	1,165,700	7.51	80.96	6	.28	1,054,674	6.39	68.72	12	.29	1,976,344	11.40	65.62	9	.28	347,755	2.42	31.10	15	.30	1,225,147	1.91	59.85	6	.30	1,225,147	1.91	59.85	6	.30	1,225,147	1.91	59.85	6
.30	169,796	1.09	82.05	7	.29	1,061,031	6.37	75.09	13	.30	252,777	1.45	66.97	10	.29	176,919	1.24	32.34	7	.31	6,979,985	10.92	70.77	9	.31	6,979,985	10.92	70.77	9	.31	6,979,985	10.92	70.77	9
.31	191,158	1.22	83.27	5	.30	1,045,736	6.27	81.36	6	.31	396,218	2.29	69.26	11	.30	364,519	2.54	34.88	11	.32	1,854,343	2.90	73.67	11	.32	1,854,343	2.90	73.67	11	.32	1,854,343	2.90	73.67	11
.32	884,070	5.69	88.96	6	.31	294,814	1.76	83.12	10	.32	266,167	1.53	70.79	8	.31	915,361	6.35	41.23	10	.33	3,421,610	5.35	79.02	4	.33	3,421,610	5.35	79.02	4	.33	3,421,610	5.35	79.02	4
.33	197,451	1.26	90.22	9	.32	465,965	2.98	86.10	4	.33	208,203	1.19	71.98	8	.32	597,572	4.15	45.38	10	.34	577,021	.90	76.92	6	.34	577,021	.90	76.92	6	.34	577,021	.90	76.92	6
.34	98,705	.64	90.86	5	.33	359,167	2.17	88.27	5	.34	1,043,254	6.01	77.99	10	.33	292,207	2.03	47.41	15	.35	1,519,944	2.39	82.31	11	.35	1,519,944	2.39	82.31	11	.35	1,519,944	2.39	82.31	11
.35	73,535	.48	91.34	6	.34	141,208	.85	89.12	6	.35	190,966	1.10	79.09	3	.34	1,038,410	7.22	54.63	11	.36	872,750	1.36	83.67	10	.36	872,750	1.36	83.67	10	.36	872,750	1.36	83.67	10
.36	41,471	.27	91.61	3	.35	177,573	1.07	90.19	7	.36	209,435	1.21	80.30	6	.35	996,950	6.93	61.56	12	.37	2,540,591	3.96	87.63	13	.37	2,540,591	3.96	87.63	13	.37	2,540,591	3.96	87.63	13
.37	250,367	1.66	93.27	7	.36	247,703	1.49	91.68	10	.37	875,010	5.06	85.36	8	.36	301,655	2.10	63.66	6	.38	1,297,976	1.99	89.62	10	.38	1,297,976	1.99	89.62	10	.38	1,297,976	1.99	89.62	10
.38	98,776	.64	93.91	2	.37	64,222	.38	92.06	6	.38	297,579	1.71	87.07	8	.37	48,005	1.03	63.99	5	.39	990,743	1.58	91.20	8	.39	990,743	1.58	91.20	8	.39	990,743	1.58	91.20	8
.39	40,363	.26	94.17	2	.38	97,300	.58	92.64	7	.39	678,319	3.91	90.98	10	.38	146,291	1.32	65.01	5	.40	689,385	1.08	92.28	7	.40	689,385	1.08	92.28	7	.40	689,385	1.08	92.28	7
.40	107,789	.68	94.85	5	.39	179,781	1.09	93.73	5	.40	207,483	1.21	92.19	8	.39	96,975	.68	65.69	5	.41	834,650	1.30	93.58	7	.41	834,650	1.30	93.58	7	.41	834,650	1.30	93.58	7
.41	43,611	.28	95.13	3	.40	23,797	.14	93.87	4	.41	84,007	.84	92.67	1	.40	201,331	1.39	67.08	7	.42	337,099	.52	94.10	1	.42	337,099	.52	94.10	1	.42	337,099	.52	94.10	1
.42	71,556	.45	95.58	3	.41	71,660	.43	94.30	3	.42	14,076	.08	92.75	2	.41	868,376	6.03	73.11	4	.43	696,376	1.02	95.12	2	.43	696,376	1.02	95.12	2	.43	696,376	1.02	95.12	2
.43	25,637	.16	95.74	4	.42	73,432	.44	94.74	4	.43	138,545	.80	93.55	4	.42	150,888	1.06	74.17	8	.44	75,974	.12	95.24	5	.44	75,974	.12	95.24	5	.44	75,974	.12	95.24	5
.44	103,814	.27	96.01	5	.43	27,565	.17	94.91	2	.44	55,452	.32	93.87	4	.43	177,422	1.24	75.41	6	.45	115,831	.19	95.43	3	.45	115,831	.19	95.43	3	.45	115,831	.19	95.43	3
.45	100,603	.65	97.09	3	.44	53,906	.32	95.23	2	.45	45,834	.26	94.13	2	.44	92,366	.65	76.06	7	.46	179,597	.29	95.72	5	.46	179,597	.29	95.72	5	.46	179,597	.29	95.72	5
.46	38,581	.25	97.34	3	.45	132,080	.79	96.02	6	.46	63,438	.36	94.49	3	.45	10,687	.07	76.13	1	.47	327,376	.51	96.23	4	.47	327,376	.51	96.23	4	.47	327,376	.51	96.23	4
.47	17,981	.11	97.45	4	.46	24,123	.14	96.16	2	.47	63,374	.18	94.67	2	.46	63,374	.49	80.52	11	.48	148,767	.24	96.47	3	.48	148,767	.24	96.47	3	.48	148,767	.24	96.47	3
.48	6,707	.04	97.45	2	.47	39,649	.22	96.38	4	.48	29,658	.17	94.84	3	.47	50,126	.34	80.86	3	.49	167,608	.27	96.74	3	.49	167,608	.27	96.74	3	.49	167,608	.27	96.74	3
.49	9,701	.06	97.55	2	.48	16,777	.10	96.48	1	.49	185,052	1.06	95.90	5	.48	154,257	.87	81.93	7	.50	54,919	.09	96.83	2	.50	54,919	.09	96.83	2	.50	54,919	.09	96.83	2
.50	54,919	.36	97.91	5	.49	84,257	.50	96.96	3	.51	100,403	.58	96.48	2	.49	95,442	.66	82.59	4	.51	183,455	.29	97.12	2	.51	183,455	.29	97.12	2	.51	183,455	.29	97.12	2

TABLE 20.—Total "Revised" general expenses, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.
[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.									
Per ton cost by \$0.01 group- ing.	Produc- tion tonnage (net tons).	Per cent of total.	Accu- mulated per cent.	Num- ber of com- pan- ies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Produc- tion tonnage (net tons).	Per cent of total.	Accu- mulated per cent.	Num- ber of com- pan- ies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Produc- tion tonnage (net tons).	Per cent of total.	Accu- mulated per cent.	Num- ber of com- pan- ies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Produc- tion tonnage (net tons).	Per cent of total.	Accu- mulated per cent.	Num- ber of com- pan- ies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Produc- tion tonnage (net tons).	Per cent of total.	Accu- mulated per cent.	Num- ber of com- pan- ies by \$0.01 group- ing.					
\$0.07	7,843	0.05	0.05	1	\$0.07	3,764	0.02	0.02	1	\$0.07	4,246	0.02	0.02	1	\$0.07	24,016	0.17	0.17	1	\$0.10	96,653	0.15	0.15	1	0.15	96,653	0.15	0.15	1
08	400,921	2.58	2.63	2	08	25,043	0.14	1.16	1	08	24,279	1.14	1.16	1	12	8,120	0.06	0.23	2	11	1,179,778	1.85	2.00	1	1.85	1,179,778	1.85	2.00	1
09	331,884	2.14	4.77	2	09	369,577	2.21	2.37	1	10	288,356	1.72	1.88	1	14	51,679	0.36	0.59	2	13	1,456,883	2.27	4.27	1	2.27	1,456,883	2.27	4.27	1
11	4,623	0.03	4.80	1	10	309,339	1.86	4.23	1	11	42,081	2.24	2.12	1	15	246,569	1.72	2.31	2	14	78,471	1.12	4.39	3	4.39	78,471	1.12	4.39	3
14	40,221	0.26	5.06	4	11	6,634	0.03	4.26	1	13	404,320	2.33	4.45	3	17	49,819	0.35	2.66	4	15	318,052	1.49	4.88	2	4.88	318,052	1.49	4.88	2
15	424,484	2.73	7.79	3	12	5,023	0.03	4.29	1	14	44,780	0.26	4.71	1	18	175,799	1.23	3.89	4	16	36,417	0.06	4.94	2	4.94	36,417	0.06	4.94	2
16	339,746	2.19	9.98	4	13	44,420	0.27	4.56	2	15	43,431	0.26	4.97	3	19	171,818	1.19	5.08	4	17	118,877	1.19	5.13	4	5.13	118,877	1.19	5.13	4
17	490,910	3.23	13.21	5	14	54,714	0.33	4.89	2	16	229,381	1.34	6.31	7	20	87,573	0.60	5.68	3	18	909,090	1.42	6.55	5	6.55	909,090	1.42	6.55	5
18	213,380	1.38	14.59	9	15	68,004	0.42	5.31	2	17	23,355	0.14	6.45	4	21	318,393	2.22	7.90	5	19	543,954	1.86	7.41	6	7.41	543,954	1.86	7.41	6
19	864,906	5.55	20.14	6	16	387,973	2.33	7.64	3	18	41,126	0.23	6.68	2	22	1,000,407	6.94	14.84	12	20	3,323,298	5.20	12.61	9	12.61	3,323,298	5.20	12.61	9
20	473,867	3.01	23.11	11	17	112,098	0.68	8.32	6	19	715,904	4.12	10.80	5	23	226,811	1.65	16.49	9	21	3,272,551	5.11	17.72	12	17.72	3,272,551	5.11	17.72	12
21	731,004	2.70	24.31	15	18	496,774	3.01	11.33	7	20	362,737	2.09	12.89	9	24	459,973	3.19	19.08	10	22	3,924,414	6.13	23.85	17	23.85	3,924,414	6.13	23.85	17
22	370,826	2.38	27.87	17	19	354,256	2.13	13.46	6	21	332,741	1.10	23.99	21	25	358,860	2.49	22.17	13	23	1,877,853	2.92	26.77	14	26.77	1,877,853	2.92	26.77	14
23	588,669	3.80	31.67	16	20	587,357	3.49	16.83	16	22	787,052	4.50	28.49	20	26	333,464	1.63	23.80	9	24	4,066,318	6.35	33.12	16	33.12	4,066,318	6.35	33.12	16
24	249,998	1.62	32.11	12	21	777,146	4.67	21.62	15	23	333,130	1.35	29.84	8	27	322,855	2.25	26.05	10	25	4,584,633	7.19	40.31	16	40.31	4,584,633	7.19	40.31	16
25	530,201	3.42	35.53	14	22	917,998	11.52	33.14	18	24	419,933	2.41	32.25	13	28	160,157	1.11	27.16	10	26	950,889	1.50	41.81	11	41.81	950,889	1.50	41.81	11
26	725,908	4.67	40.20	11	23	158,706	0.96	34.10	7	25	339,390	1.82	34.97	15	29	246,160	0.86	35.82	12	27	1,024,677	1.41	48.22	18	48.22	1,024,677	1.41	48.22	18
27	411,073	2.69	42.86	12	24	369,346	2.21	36.31	10	26	370,878	1.92	35.89	18	30	516,875	3.59	39.41	14	28	1,297,033	2.03	50.25	15	50.25	1,297,033	2.03	50.25	15
28	257,732	1.64	44.50	5	25	225,339	7.36	43.67	15	27	980,382	5.64	51.63	13	31	310,694	2.17	41.58	7	29	2,038,851	3.19	55.49	10	55.49	2,038,851	3.19	55.49	10
29	348,552	2.24	46.74	5	26	1,099,302	6.62	50.29	19	28	170,728	6.77	58.40	15	32	1,338,950	10.70	52.28	16	30	1,317,296	2.05	55.49	10	55.49	1,317,296	2.05	55.49	10
30	578,642	3.74	60.48	13	27	402,687	2.43	52.72	10	29	154,315	9.00	59.30	7	33	216,217	1.50	53.78	7	31	1,150,806	1.80	57.29	10	57.29	1,150,806	1.80	57.29	10
31	240,503	1.85	52.33	10	28	675,809	4.05	56.77	14	30	407,041	2.34	61.64	16	34	409,539	1.82	56.60	13	32	1,415,475	2.78	61.07	16	61.07	1,415,475	2.78	61.07	16
32	135,144	0.87	53.20	5	29	296,471	1.78	58.55	9	31	494,621	2.86	64.50	16	35	375,000	2.59	59.19	13	33	1,307,820	2.06	63.13	7	63.13	1,307,820	2.06	63.13	7
33	318,556	2.05	55.25	10	30	479,207	2.86	61.41	15	32	217,169	1.26	65.76	9	36	1,050,787	7.29	66.48	9	34	1,431,197	2.25	65.38	11	65.38	1,431,197	2.25	65.38	11
34	600,617	3.91	59.16	13	31	97,066	0.58	61.99	5	33	556,433	3.20	68.06	14	37	183,882	1.29	67.77	8	35	5,099,229	7.88	73.28	16	73.28	5,099,229	7.88	73.28	16

35	261,929	1,677,703	328	423,757	2,554,645	13	341,193,390	389	335,657	2,328,709	17	361,998,407	3,111,763	7
36	76,735	5,547,713	6	2,066,660	1,557,773	8	35,299,490	39	345,874	2,170,726	14	479,570	74,771	9
37	923,479	1,078,217	9	3,407,217	6,448,730	10	369,606,249	40	344,547	2,407,743	11	859,585	1,347,785	10
38	180,010	1,237,79,32	12	3,411,352	2,033,75,11	10	377,250,430	41	29,537	72,536	3	1,148,088	1,818,90,26	13
39	129,275	3,361,557,066	8	3,361,557,066	1,522,83,24	12	382,691,699	42	73,540	562,75,36	5	1,690,688	2,643,82,90	10
40	639,317	4,138,83,46	9	67,476	43,83,67	5	397,76,042	43	278,112	1,937,77,32	6	290,173	45,83,35	7
41	830,189	5,393,89,76	8	147,879	89,77,94	8	409,937	44	40,926	91,78,52	8	290,307	41,83,76	4
42	139,504	8,89,89,68	9	399,400,169	2,407,74,74	8	411,332,132	45	128,327	91,78,52	8	126,043	21,83,97	5
43	133,995	6,66,91,24	11	406,254	3,533,83,27	13	421,925,750	46	13,966	99,78,61	2	358,737	57,84,54	6
44	102,355	6,66,91,24	9	924,871	5,55,88,52	9	439,255,750	47	515,268	3,57,82,18	10	393,007	60,85,14	7
45	60,322	3,88,91,68	4	21,335	14,88,96	5	441,336,673	48	92,012	64,82,52	4	3,710,886	6,90,90,94	11
46	143,018	5,393,89,76	8	88,958	53,89,46	6	454,43,211	49	44,211	29,83,11	4	559,871	88,91,82	3
47	116,128	7,75,93,25	8	116,324	70,90,19	12	466,56,434	50	176,145	1,22,84,33	7	206,316	33,92,15	3
48	3,751	94,282	1	94,282	5,54,93,5	4	471,91,252	51	10,842	69,85,02	4	234,375	36,92,51	6
49	83,428	3,751,22	2	91,336	5,54,93,5	5	481,110,214	52	61,240	43,85,45	4	154,477	25,92,76	4
50	94,797	6,194,10	9	145,631	8,99,92,20	6	492,467	53	52,188	36,84,81	6	487,872	71,93,47	8
51	56,981	3,26,94,46	5	113,629	6,08,92,88	7	504,514	54	111,351	76,86,57	7	336,242	53,94,00	5
52	6,994	4,04,60	2	3,987	1,08,92,91	7	514,47,666	55	62,777	37,86,94	8	210,043	33,94,33	6
53	40,554	2,26,94,76	4	98,639	5,99,93,50	8	526,681	56	27,977	20,87,14	5	381,383	59,94,92	5
54	36,954	24,95,00	4	61,009	3,77,93,87	4	536,794	57	17,958	12,87,26	2	75,905	12,95,04	2
55	42,766	2,26,95,28	4	24,890	1,15,94,02	8	542,926	58	126,968	88,83,14	6	290,966	46,95,50	4
56	46,009	4,04,60	2	116,553	7,04,81	9	552,638	59	98,911	69,88,83	5	73,118	12,95,02	3
57	27,892	1,18,95,82	4	110,456	6,08,92,88	7	567,79,911	60	88,138	40,88,23	3	173,770	28,95,90	4
58	66,459	4,24,96,24	4	82,938	6,08,92,88	7	5712,672	61	28,681	19,89,42	5	103,087	16,95,06	6
59	101,638	6,08,92,88	4	46,249	2,77,96,06	4	585,935	62	758,836	5,28,94,70	3	156,381	24,96,30	4
60	21,832	1,14,97,04	4	50,079	3,80,96,35	5	596,935	63	35,211	26,94,96	5	92,639	15,95,45	4
61	20,263	1,14,97,04	4	3,345	1,02,96,37	3	606,935	64	34,939	24,95,20	4	172,472	27,95,72	2
62	38,010	2,26,94,76	4	26,325	1,15,96,24	3	618,935	65	41,472	29,95,49	7	241,084	38,97,08	2
63	60,511	3,39,97,79	4	136,750	1,81,97,33	4	6212,663	66	49,689	34,95,53	2	160,528	28,97,16	3
64	38,102	24,98,03	2	11,088	0,06,97,39	3	635,935	67	24,525	17,96,03	2	164,660	29,97,42	2
65	18,637	1,14,98,16	3	36,711	1,11,97,50	2	644,631	68	4,478	0,06,98,03	1	323,014	51,97,93	1
66	43,110	3,39,97,79	4	3,777	0,01,97,74	1	654,935	69	10,894	0,06,98,11	1	134,869	21,98,14	1
67	22,310	1,14,98,16	2	3,551	0,02,97,76	1	6610,245	70	31,703	29,98,34	2	14,018	0,02,98,18	1
68	3,340	0,02,98,06	1	12,020	0,07,97,83	3	70112,714	71	25,252	1,18,98,55	1	43,361	0,07,98,26	2
69	19,430	1,14,98,16	3	38,771	2,23,98,06	3	713,142	72	12,208	0,09,98,64	3	271,099	42,98,67	3
70	30,470	2,26,94,76	4	66,109	1,39,98,45	2	723,372	73	3,330	0,28,97,02	3	143,724	22,98,89	3
71	3,694	0,02,98,06	1	10,038	0,06,98,51	2	736,121	74	28,161	0,02,97,04	3	78,562	12,99,03	3
72	3,279	0,02,98,06	1	31,058	1,19,98,70	1	743,240	75	13,889	1,13,97,37	1	13,551	0,02,99,03	1
73	39,834	2,26,94,76	2	10,126	0,06,98,76	1	806,881	76	7,216	0,05,97,42	1	36,764	0,06,99,09	1
74	5,467	0,08,99,31	2	28,765	1,19,98,83	1	818,945	77	81	0,06,97,42	2	113,660	17,99,26	3
75	6,571	0,14,99,35	1	84,501	2,08,99,18	1	823,948	78	73,275	0,08,97,42	2	6,392	0,01,99,26	2
76	21,593	0,14,99,35	1	13,967	0,08,99,22	3	845,004	79	83	0,03,97,99	2	130,499	20,99,47	2
77	8,309	0,05,99,54	1	9,846	0,06,99,28	1	856,131	80	14,379	0,11,98,13	3	8,885	0,01,99,48	1
78												99,983	0,15,99,63	1

TABLE 30.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.

[Based on net tons of 2,000 pounds.]

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.					
Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of piles by \$0.01 group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of piles by \$0.01 group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of piles by \$0.01 group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of piles by \$0.01 group-ing.	Per-ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of piles by \$0.01 group-ing.	
\$1.16	7,843	0.05	0.05	1	\$1.48	48,511	0.29	0.29	1	\$1.48	48,409	0.28	0.28	1	\$1.52	30,090	-0.21	0.21	1	\$1.55	315,703	0.49	0.49	2	2
1.48	52,009	.33	.38	1	1.51	49,593	.30	.59	1	1.49	53,991	.20	.48	1	1.59	18,296	.13	.61	1	1.60	596,242	.89	1.38	1	1
1.49	19,568	.13	.51	1	1.53	32,998	.20	.79	1	1.51	76,624	.44	.92	2	1.66	108,559	.75	1.09	2	1.61	80,595	.13	1.51	1	1
1.52	97,992	.63	1.14	3	1.54	111,273	.67	1.46	3	1.53	113,539	.65	1.57	1	1.68	113,557	.79	1.88	3	1.62	226,982	.36	1.87	2	2
1.53	3,475	.02	1.16	1	1.55	149,048	.89	2.35	2	1.55	33,794	.19	1.76	1	1.69	25,616	.17	2.05	1	1.63	187,947	.29	2.16	1	1
1.57	20,671	.13	1.29	1	1.56	29,473	.18	2.53	1	1.58	48,871	.28	2.04	1	1.70	25,484	.18	2.22	1	1.67	138,622	.22	2.38	1	1
1.58	105,991	.68	1.97	1	1.62	61,394	.37	2.90	1	1.60	64,341	.27	2.41	2	1.71	1,701	.01	2.24	1	1.68	16,139	.03	2.41	1	1
1.60	2,917	.02	1.99	1	1.65	28,107	.17	3.07	2	1.61	20,754	.12	2.53	1	1.75	31,100	.22	2.46	1	1.70	256,521	.39	2.80	2	2
1.62	210,405	1.35	3.34	2	1.67	142,121	.85	3.92	2	1.63	4,961	.02	2.55	1	1.78	5,990	.04	2.50	1	1.72	64,340	.10	2.90	1	1
1.64	396,649	2.55	5.80	1	1.68	63,871	.39	4.31	3	1.64	80,606	.47	3.02	3	1.81	95,450	.66	3.16	2	1.73	1,481,075	2.31	5.21	2	2
1.66	68,355	.45	6.34	4	1.69	67,912	.41	4.72	2	1.67	390,697	2.25	5.27	2	1.82	37,488	.26	3.42	1	1.74	93,324	.15	5.36	2	2
1.67	345,831	2.23	8.57	3	1.70	603,111	3.61	8.33	4	1.70	41,455	.24	5.51	1	1.83	217,895	.51	4.93	2	1.75	15,019	.02	5.38	1	1
1.68	478,128	3.08	11.65	4	1.71	483,649	2.91	11.24	4	1.71	130,370	.75	6.26	2	1.86	77,914	.64	5.47	2	1.76	1,740,291	2.72	8.10	4	4
1.69	89,731	.58	12.23	1	1.72	42,708	1.26	11.50	2	1.72	137,107	1.0	6.36	1	1.88	25,853	.18	6.55	1	1.78	136,540	.21	8.31	1	1
1.71	66,340	.43	12.66	2	1.73	243,633	1.46	12.96	3	1.74	666,440	3.84	10.20	4	1.90	79,344	.56	6.21	2	1.79	21,544	.03	8.34	1	1
1.72	258,675	1.65	14.31	5	1.74	5,959	.04	13.00	1	1.75	17,759	.10	10.30	1	1.91	64,793	.45	6.66	1	1.80	296,870	.43	8.77	2	2
1.73	364,264	2.34	16.65	2	1.75	41,548	.25	13.25	1	1.76	237,630	1.37	11.67	5	1.92	69,447	.48	7.14	3	1.81	911,231	1.42	10.19	3	3
1.74	31,634	.20	16.85	2	1.76	185,570	1.11	14.36	1	1.78	26,268	.15	11.82	3	1.93	9,032	.06	7.20	1	1.82	1,254,112	2.07	12.26	4	4
1.75	98,341	.63	17.48	2	1.77	500,151	3.01	17.37	4	1.79	21,013	.12	11.84	1	1.94	5,184	.04	7.24	1	1.83	205,330	.32	12.58	3	3
1.76	61,867	.40	17.88	4	1.78	28,551	.17	17.54	1	1.80	29,910	.14	12.08	1	1.95	68,908	.48	7.72	2	1.84	566,062	.88	13.46	2	2
1.77	54,103	.35	18.23	2	1.79	71,301	.42	17.96	4	1.81	667,772	3.84	15.92	4	1.96	22,990	.16	7.88	1	1.85	1,573,168	2.46	15.92	1	1
1.78	196,739	1.27	19.50	2	1.80	561,543	3.37	21.33	6	1.82	68,890	.40	16.46	2	1.97	322,242	2.24	10.12	2	1.86	377,801	.59	16.51	3	3
1.79	10,474	.07	19.57	1	1.81	163,076	.98	22.31	6	1.83	24,510	.14	16.46	1	1.98	64,209	.45	10.17	2	1.87	296,203	1.07	18.48	3	4
1.80	424,671	2.72	22.20	5	1.82	28,671	.17	22.48	1	1.84	175,685	1.00	17.46	4	1.99	237,525	1.65	12.22	4	1.88	235,236	.36	18.84	2	2
1.81	92,518	.60	22.80	4	1.83	87,673	.53	23.01	3	1.85	182,367	1.06	18.52	2	2.00	267,642	1.86	14.08	2	1.89	365,074	.69	19.43	4	4

TABLE 30.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.				
Per-ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per-ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.
\$1.82	82,060	0.52	23.41	3	\$1.84	679,577	4.08	27.09	6	\$1.86	150,449	0.87	19.39	6	\$2.01	35,672	0.25	14.33	1	\$1.90	1,335,086	2.09	21.52	2
1.83	320,183	2.06	25.47	3	1.85	4,338	0.03	27.12	1	1.87	91,539	0.53	19.92	3	2.02	16,198	0.11	14.44	2	1.91	911,459	1.42	22.94	4
1.84	49,938	0.33	25.80	3	1.87	53,620	0.32	27.44	2	1.88	235,696	1.36	21.28	1	2.03	61,522	0.43	14.87	2	1.92	278,572	1.44	23.38	3
1.85	97,198	0.63	26.43	2	1.88	13,692	0.08	27.52	1	1.89	234,999	1.35	22.63	3	2.04	73,779	0.51	15.38	3	1.93	1,369,684	2.14	25.52	2
1.86	231,197	1.49	27.92	5	1.89	51,211	0.31	27.83	2	1.90	180,970	1.04	23.67	2	2.05	10,706	0.07	15.45	1	1.94	145,100	0.23	25.75	2
1.87	42,428	0.27	28.19	1	1.90	182,067	1.09	28.92	2	1.91	39,659	0.23	23.90	2	2.06	11,337	0.08	15.53	1	1.97	696,908	1.09	26.84	4
1.88	94,017	0.60	28.79	3	1.91	124,465	0.75	29.62	4	1.92	103,556	0.60	24.50	2	2.07	171,792	1.20	16.73	2	1.98	1,115,673	1.75	28.59	4
1.89	85,735	0.55	29.34	3	1.92	161,303	0.97	30.64	5	1.93	142,720	0.82	25.32	6	2.08	202,272	1.40	18.13	2	1.99	475,770	1.74	29.33	3
1.90	40,325	0.26	29.60	3	1.93	162,214	0.97	31.61	2	1.94	104,804	0.63	25.95	2	2.09	44,268	0.30	18.43	3	2.00	624,292	0.98	30.31	1
1.91	367,761	2.36	31.96	7	1.94	76,700	0.46	32.07	2	1.95	390,910	2.25	28.20	3	2.11	341,219	2.37	20.80	3	2.01	184,068	0.28	30.59	2
1.92	110,513	0.72	32.68	3	1.95	251,765	1.51	33.58	2	1.96	46,684	0.27	28.47	1	2.12	15,182	0.11	20.91	1	2.02	58,455	0.09	30.68	2
1.93	84,704	0.54	33.22	2	1.96	755,386	4.54	38.12	2	1.97	309,901	1.79	30.26	2	2.13	296,020	2.06	22.97	4	2.03	126,580	0.21	30.89	3
1.94	23,185	0.15	33.37	1	1.97	118,701	0.71	38.83	4	1.98	230,631	1.14	30.40	1	2.14	70,583	0.49	23.46	4	2.04	158,126	0.24	31.13	2
1.95	611,317	3.93	37.30	3	1.98	171,094	1.02	39.85	3	1.99	180,418	1.03	31.43	3	2.15	175,160	1.21	24.67	6	2.05	3,304,942	5.16	36.29	7
1.96	87,662	0.58	37.86	3	1.99	72,376	0.44	40.29	2	2.00	319,252	1.85	33.28	6	2.16	31,211	0.22	24.89	2	2.06	1,105,846	1.73	38.02	4
1.97	173,798	1.12	38.98	4	2.00	134,195	0.82	41.11	5	2.01	45,290	0.26	33.54	1	2.17	5,983	0.04	24.93	1	2.07	432,940	0.67	38.69	3
1.98	50,767	0.33	39.31	2	2.01	947,997	5.68	46.79	6	2.02	42,667	0.24	33.78	1	2.18	29,638	0.20	25.13	3	2.08	307,214	0.48	39.17	3
1.99	105,695	0.68	39.99	3	2.02	109,880	0.66	47.45	3	2.03	295,335	1.36	35.14	3	2.19	86,193	0.60	25.73	3	2.09	619,837	0.97	40.14	3
2.00	795,327	4.94	44.33	2	2.03	28,913	0.18	47.63	3	2.04	152,133	0.88	36.02	3	2.20	33,978	0.24	25.97	3	2.10	192,357	0.30	40.44	2
2.01	21,659	0.14	45.07	1	2.04	173,769	1.04	48.67	3	2.05	201,820	1.16	37.18	6	2.21	900,321	6.26	52.23	3	2.11	760,154	1.19	41.63	4
2.02	64,959	0.42	45.49	3	2.05	189,930	1.14	49.81	4	2.06	49,076	0.29	37.47	1	2.22	74,495	0.52	52.75	3	2.12	404,350	0.63	42.20	2
2.03	141,208	0.91	46.40	3	2.06	57,861	0.34	50.15	4	2.07	331,596	2.02	39.49	5	2.24	296,278	1.64	34.39	4	2.13	152,754	0.23	42.46	2
2.04	278,276	1.80	48.20	7	2.08	174,568	0.71	50.47	2	2.08	814,698	4.69	44.89	6	2.25	147,565	1.03	35.42	4	2.14	3,704,197	5.79	48.28	5
2.05	129,831	0.63	54.83	5	2.09	167,684	1.01	51.48	5	2.10	184,683	0.80	45.64	3	2.26	524,816	3.65	39.07	5	2.15	813,527	1.28	49.56	4
2.06	27,227	0.18	55.01	1	2.09	753,325	4.52	56.09	3	2.11	138,299	0.80	45.69	3	2.27	226,130	1.57	40.64	3	2.16	395,446	0.62	50.18	4

2.07	140,130	.09	55.91	2.10	78,394	.48	58.48	2.12	172,989	.99	48.68	2.28	4,989	.03	40.67	2.17	781,978	1.23	51.41
2.08	140,130	.09	55.91	2.11	14,824	.88	57.33	2.13	83,798	.43	51.92	2.29	104,231	.73	40.71	2.18	480,211	.76	52.71
2.09	53,642	3.15	59.82	2.12	1,892	.03	57.36	2.14	55,089	.31	51.92	2.30	133,534	.43	40.71	2.19	480,211	.76	52.71
2.10	28,231	1.18	59.82	2.13	25,193	.45	57.51	2.15	84,967	.49	52.41	2.32	107,898	.73	40.71	2.20	1,054,267	1.05	54.07
2.11	70,268	.45	60.25	2.14	707,012	.42	61.76	2.16	38,236	.22	52.63	2.33	42,465	.30	53.38	2.21	124,267	.20	54.07
2.12	52,609	1.34	50.59	2.15	52,536	.31	62.07	2.17	42,320	.24	52.87	2.34	116,510	.80	44.18	2.22	2,733,928	4.27	58.04
2.13	172,000	.10	61.59	2.16	48,968	.29	62.36	2.18	32,349	.23	53.07	2.35	223,632	.35	46.29	2.23	223,632	.35	46.29
2.14	55,551	.17	62.05	2.17	98,568	.59	62.35	2.19	258,428	1.50	54.04	2.36	145,857	1.02	51.39	2.24	300,512	.61	58.04
2.15	25,817	.17	62.05	2.20	64,984	.40	63.35	2.21	94,573	.54	55.04	2.37	207,395	1.17	47.83	2.25	11,575	.02	58.04
2.16	76,116	.49	62.71	2.21	150,471	.90	64.25	2.22	245,067	1.41	56.45	2.38	24,907	.17	47.00	2.26	516,478	.81	60.73
2.17	27,059	1.17	62.88	2.22	947,889	5.69	69.94	2.23	209,122	.62	57.07	2.39	90,746	.63	47.63	2.27	255,542	4.01	61.13
2.18	215,712	1.38	64.26	2.23	37,913	.20	70.17	2.24	400,431	.28	59.04	2.40	41,733	.63	47.63	2.28	2,892,359	4.51	65.64
2.19	232,828	1.44	65.70	2.24	449,424	2.70	72.87	2.25	62,786	.37	60.31	2.41	194,519	1.37	49.29	2.29	91,458	1.37	65.71
2.20	270,070	1.74	67.44	2.25	23,513	.48	73.01	2.26	50,064	.29	60.60	2.42	240,749	1.66	50.95	2.30	440,215	.69	66.46
2.21	19,969	1.13	67.57	2.26	80,613	.48	73.49	2.27	16,673	.10	60.70	2.43	67,573	.47	51.42	2.31	191,052	.30	66.76
2.22	152,984	.98	68.55	2.27	162,172	.98	74.47	2.28	62,785	.36	61.06	2.44	776,902	5.40	56.82	2.32	3,653,466	5.72	72.45
2.23	19,401	.13	68.68	2.28	27,477	.16	74.63	2.29	97,260	.59	61.62	2.45	20,210	1.14	56.96	2.33	14,974	1.70	74.20
2.24	39,406	.26	68.94	2.29	130,910	.79	75.42	2.30	1,056,119	6.08	67.71	2.46	48,442	.33	57.29	2.34	1,063,205	1.39	74.59
2.25	2,773	.02	69.41	2.30	35,378	.21	75.63	2.31	62,216	.38	66.07	2.47	155,499	1.08	58.37	2.35	251,421	.35	74.94
2.26	198,304	1.27	70.68	2.31	199,548	1.19	76.82	2.32	7,771	.04	68.11	2.48	416,983	2.90	61.27	2.36	222,007	.35	74.94
2.27	174,815	1.12	71.80	2.32	15,009	.09	76.91	2.33	145,627	.84	68.95	2.49	16,165	.12	61.39	2.37	231,735	.36	75.30
2.28	48,262	.31	72.11	2.33	20,273	.17	77.08	2.34	39,354	.29	69.18	2.50	878,254	6.10	67.49	2.38	20,153	.03	75.33
2.29	855,925	5.50	77.61	2.34	73,532	.45	77.53	2.35	66,745	.38	69.56	2.51	34,800	.24	67.73	2.39	382,221	.00	75.93
2.30	2,773	.02	77.63	2.35	74,511	.45	77.98	2.36	794,781	4.57	74.13	2.52	39,968	.28	68.01	2.40	599,553	.91	76.94
2.31	32,520	.21	77.84	2.36	55,954	.34	78.32	2.37	42,413	.25	74.38	2.53	12,866	.09	68.10	2.41	186,060	.30	77.14
2.32	69,932	.45	78.29	2.37	109,033	.65	78.97	2.38	226,915	1.31	75.69	2.54	80,959	.66	68.66	2.42	167,396	.26	77.40
2.33	104,196	.67	78.96	2.38	42,642	.26	79.23	2.39	139,472	.75	76.44	2.55	90,927	.66	68.22	2.43	510,337	.80	78.20
2.34	24,119	.16	79.12	2.39	15,275	.09	79.32	2.40	405,529	2.34	78.78	2.56	6,357	.04	68.26	2.44	660,323	2.59	80.79
2.35	33,199	.21	79.33	2.40	22,359	.13	79.45	2.41	134,168	.77	79.55	2.57	85,790	.38	69.64	2.45	176,186	.28	81.07
2.36	10,744	.07	79.40	2.41	353,085	2.12	81.57	2.42	35,780	.20	79.76	2.58	69,765	.49	70.13	2.46	239,328	.37	81.44
2.37	67,089	.45	79.83	2.42	153,023	.92	82.49	2.43	22,926	.13	79.88	2.60	69,690	.49	70.62	2.47	434,929	.69	82.13
2.38	398,462	2.11	81.94	2.43	110,914	.66	83.15	2.44	3,768	.02	79.90	2.61	19,902	.14	70.76	2.48	220,619	.35	82.48
2.39	122,871	.79	83.73	2.44	6,969	.03	83.18	2.45	49,528	.29	80.19	2.62	6,130	.04	70.83	2.49	220,215	.35	82.83
2.40	97,537	.83	83.36	2.45	43,098	.26	83.44	2.46	834,725	1.94	82.13	2.63	16,204	.03	70.93	2.50	209,695	.33	83.16
2.41	177,050	1.14	84.50	2.46	1,573	.01	83.45	2.47	66,000	.37	82.50	2.64	123,773	.85	71.78	2.51	209,695	.63	83.79
2.42	60,264	.38	84.88	2.47	121,669	.73	84.18	2.48	48,788	.25	82.73	2.65	498,592	2.98	74.76	2.52	407,772	.63	83.79
2.43	20,689	.14	85.02	2.48	45,161	.27	84.45	2.49	33,075	.19	82.94	2.66	25,252	.18	74.94	2.53	106,047	.16	83.96
2.44	114,515	.73	85.75	2.49	24,338	.14	84.59	2.50	36,788	.21	83.15	2.67	35,566	.13	74.94	2.54	282,191	.44	84.39
2.45	11,163	.08	85.83	2.50	36,060	.22	83.16	2.51	36,060	.22	83.16	2.68	39,566	.27	75.97	2.55	241,137	.38	84.77
2.46	2,441	.02	85.85	2.51	117,292	.71	85.71	2.52	74,572	.44	83.81	2.69	111,414	.76	77.02	2.56	271,177	.43	85.20
2.47	7,730	.05	85.90	2.52	19,344	.23	85.83	2.53	87,835	.51	84.32	2.70	64,997	.45	77.42	2.57	50,619	.06	85.26
2.48	62,104	.03	86.30	2.53	38,318	.23	86.06	2.54	40,258	.51	84.32	2.71	114,457	.79	78.26	2.58	419,201	.65	85.93
2.49	69,011	.01	86.76	2.54	85,923	.45	86.57	2.55	16,461	.27	84.62	2.72	126,088	.92	79.16	2.59	725,122	.18	86.11
2.50	1,827	.01	86.76	2.55	85,374	.22	86.79	2.56	16,461	.27	84.62	2.73	14,944	.82	79.40	2.60	359,201	.54	87.61
2.51	76,767	.49	87.26	2.56	42,528	.29	87.04	2.57	64,563	.37	85.30	2.74	101,713	.70	80.10	2.61	135,476	.94	88.08

COST REPORTS OF THE FEDERAL TRADE COMMISSION.

TABLE 30.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918; for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.		Per ton cost by group-ing.	Production tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-ing.	
\$2.53	66,074	0.42	87.67	1		\$2.57	7,969	0.04	87.08	2		\$2.58	204,824	1.18	86.48	5		\$2.76	527,003	3.67	83.77	1		\$2.63	686,026	1.08	89.13	3	
2.54	25,099	-17	87.84	3		2.58	18,886	-11	87.19	3		2.59	77,205	-45	86.33	2		2.77	82,581	-57	84.34	2		2.64	44,139	-07	89.20	2	
2.56	10,288	-07	87.91	1		2.59	64,641	-33	87.52	2		2.60	30,628	-18	87.11	2		2.78	63,342	-44	84.78	2		2.65	37,167	-06	89.26	1	
2.57	211,034	1.36	89.27	5		2.60	126,758	-76	88.28	6		2.61	8,273	-05	87.16	2		2.79	93,303	-65	85.43	3		2.66	212,516	-33	89.59	2	
2.58	109,321	-70	89.97	4		2.61	95,133	-58	88.86	5		2.62	41,294	-24	87.40	1		2.80	26,906	-19	85.62	5		2.67	27,510	-04	89.63	1	
2.59	24,605	-16	90.13	3		2.62	2,486	-02	88.88	1		2.63	94,247	-54	87.94	1		2.81	113,371	-78	86.40	4		2.68	42,952	-06	89.69	2	
2.60	14,921	-09	90.22	1		2.63	101,978	-60	89.48	5		2.64	43,019	-25	88.19	2		2.82	56,938	-39	86.79	3		2.70	82,352	-13	89.82	3	
2.61	54,372	-33	90.57	3		2.64	95,015	-57	90.05	4		2.65	65,405	-37	88.56	5		2.83	126,788	-89	87.08	6		2.71	188,553	-28	90.10	3	
2.62	166,110	1.07	91.64	2		2.65	18,163	-11	90.16	3		2.66	20,994	-13	88.69	2		2.85	107,500	-74	88.42	7		2.72	461,389	-68	90.78	2	
2.63	42,598	-28	91.92	3		2.66	144,452	-87	91.03	4		2.67	38,444	-22	88.91	4		2.86	52,679	-36	88.78	3		2.73	283,158	-39	91.17	4	
2.64	9,222	-05	91.97	2		2.69	45,889	-27	91.30	2		2.69	95,894	-55	89.46	4		2.87	90,413	-64	89.42	4		2.74	84,573	-13	91.30	1	
2.65	87,555	-57	92.54	2		2.70	69,546	-42	91.72	4		2.71	121,859	-71	90.17	2		2.90	77,752	-19	89.01	5		2.75	581,881	-01	92.31	4	
2.66	13,728	-10	92.64	2		2.71	51,629	-31	92.03	4		2.72	117,854	-63	90.80	5		2.91	126,754	-89	90.39	3		2.77	378,881	-50	92.50	2	
2.68	44,063	-30	92.94	5		2.72	61,703	-37	92.40	4		2.73	139,854	-74	91.24	5		2.93	108,574	-12	90.92	3		2.78	498,532	-40	92.90	2	
2.69	10,338	-07	93.01	2		2.74	82,468	-47	92.01	2		2.75	81,463	-47	92.01	2		2.92	18,652	-12	90.74	3		2.79	415,220	-55	93.55	3	
2.70	13,563	-08	93.09	2		2.75	14,851	-09	92.90	2		2.74	107,630	-62	92.63	5		2.93	31,053	-22	90.96	2		2.80	64,646	-11	93.66	2	
2.71	46,916	-30	93.39	2		2.76	69,450	-42	93.41	2		2.76	102,792	-58	93.21	5		2.94	20,320	-14	91.10	2		2.81	25,696	-04	93.70	2	
2.73	35,015	-22	93.61	1		2.77	6,169	-04	93.45	2		2.77	34,716	-21	93.42	3		2.95	34,185	-24	91.34	2		2.83	57,776	-09	93.79	2	
2.74	10,223	-07	93.68	1		2.78	89,382	-53	93.98	3		2.78	9,103	-05	93.47	4		2.96	16,613	-12	91.46	2		2.84	46,469	-07	93.89	2	
2.75	24,962	-16	93.84	5		2.79	35,841	-22	94.20	2		2.79	66,498	-38	93.85	4		2.97	22,955	-16	91.62	2		2.85	99,087	-39	94.25	2	
2.76	32,544	-21	94.05	2		2.80	3,551	-02	94.22	1		2.80	17,697	-11	93.96	3		2.98	1,841	-01	91.63	1		2.86	48,276	-07	94.32	2	
2.77	38,713	-24	94.29	2		2.81	33,259	-20	94.42	3		2.81	30,315	-40	94.30	2		2.99	36,257	-25	91.88	4		2.87	245,055	-38	94.70	4	
2.78	44,730	-28	94.57	2		2.82	79,326	-16	94.58	2		2.82	74,322	-20	94.56	3		3.00	14,988	-11	91.90	1		2.88	572,264	-91	95.61	4	
2.79	2,449	-02	94.79	1		2.83	21,468	-13	94.71	2		2.83	3,979	-02	94.58	1		3.01	1,710	-01	92.00	1		2.89	77,301	-13	95.74	2	
2.80	30,295	-19	94.78	3		2.84	41,642	-27	94.98	1		2.84	41,358	-23	94.81	5		3.03	163,306	-1.13	93.13	4		2.90	10,985	-02	95.76	1	

2.81	3.926	.03	94.81	2.85	18,103	.11	95.09	2.85	5,004	.03	94.84	29,683	.21	93.34	8	2.91	86,612	.14	95.90	3
2.82	3,227	.02	94.83	2.86	10,800	.09	95.15	2.87	32,431	.19	95.03	13,008	.09	93.43	3	2.92	73,531	.03	96.08	3
2.83	10,257	.07	94.80	2.90	15,256	.06	95.24	2.88	8,185	.19	95.08	22,596	.02	93.45	1	2.93	22,596	.03	96.06	1
2.84	29,968	.19	95.19	2.91	13,680	.06	95.32	2.89	161,038	.21	95.22	67,803	.47	93.92	4	2.94	44,976	.03	96.12	2
2.85		.14	95.46	2.92	21,727	.14	95.46	2.90	161,038	.21	95.22	67,803	.03	94.55	1	2.95	80,114	.03	96.25	2
2.86	21,593	.14	95.23	2.93	96,446	.58	96.04	2.91	5,983	.03	96.26	17,544	.12	94.67	3	2.96	52,558	.08	96.33	2
2.87	70,309	.05	95.74	2.94	51,808	.30	96.24	2.92	109,622	.61	96.38	22,494	.12	94.69	3	2.97	25,418	.07	96.40	2
2.88	12,100	.08	95.92	2.95	17,631	.04	96.41	2.93	17,631	.04	96.06	18,644	.17	95.18	3	2.98	27,718	.05	96.54	2
2.89	45,810	.30	96.22	2.96	56,407	.34	96.79	2.94	32,762	.19	97.15	23,693	.17	95.18	1	2.99	11,876	.05	96.89	1
2.90		.02	96.22	2.97	77,424	.47	97.26	2.95	15,627	.09	97.24	11,433	.06	95.26	2	3.00	218,129	.34	97.23	2
2.91	2,792	.02	96.24	2.98	77,424	.47	97.26	2.96	6,976	.04	97.28	3,992	.03	95.29	2	3.01	80,456	.13	97.36	1
2.92	64,086	.41	96.65	2.99	6,298	.04	97.30	2.97	59,624	.33	97.61	8,097	.09	95.35	2	3.02	73,098	.11	97.47	2
2.93	31,718	.20	96.86	3.00	3,245	.02	97.32	2.98	21,265	.12	97.73	7,819	.09	95.41	1	3.03	40,026	.07	97.54	2
2.94	1,904	.01	96.86	3.01	6,172	.04	97.36	2.99	54,752	.31	98.22	29,261	.28	97.46	3	3.04	70,688	.11	97.65	2
2.95	105,325	.68	97.54	3.02	17,645	.11	97.47	3.00	31,461	.18	98.22	152,104	1.06	98.67	2	3.05	29,154	.04	97.69	2
3.00	9,229	.06	97.60	3.01	22,203	.13	97.62	3.01	12,166	.07	98.29	3,900	.03	96.70	1	3.11	19,345	.03	97.72	1
3.01	30,528	.20	97.80	3.02	3,510	.02	97.62	3.02	3,652	.02	98.31	13,324	.04	96.79	1	3.12	111,108	.17	97.89	2
3.02	2,465	.02	97.82	3.03	14,129	.08	97.70	3.03	2,637	.01	98.32	40,953	.28	97.07	2	3.13	554,411	.86	98.75	2
3.03	10,768	.07	97.89	3.04	11,049	.07	97.77	3.04	3,142	.02	98.34	56,951	.39	97.46	3	3.17	20,440	.03	98.78	1
3.07	7,965	.05	97.94	3.05	9,052	.05	97.82	3.07	3,420	.02	98.36	4,478	.03	97.49	1	3.18	10,415	.02	98.80	1
3.08	2,292	.01	97.95	3.06	5,465	.03	97.85	3.08	3,695	.02	98.38	8,124	.06	97.55	1	3.21	18,758	.03	98.83	1
3.09	5,313	.03	97.96	3.07	4,297	.03	97.88	3.09	3,652	.02	98.40	16,933	.12	97.67	2	3.22	82,114	.12	98.95	3
3.10	14,266	.09	98.07	3.08	3,452	.02	97.90	3.10	15,217	.09	98.49	35,796	.25	97.92	2	3.23	27,765	.04	98.99	1
3.11	9,969	.06	98.13	3.09	9,846	.06	97.96	3.11	12,620	.07	98.56	8,534	.05	97.98	2	3.25	42,673	.07	99.06	1
3.13	8,508	.05	98.18	3.10	25,613	.16	98.12	3.15	8,365	.05	98.61	37,088	.26	98.24	2	3.27	252,659	.40	99.46	1
3.16	2,246	.02	98.20	3.16	4,148	.03	98.15	3.16	11,487	.07	98.68	3,748	.03	98.27	1	3.28	84,004	.13	99.59	1
3.17	8,723	.06	98.26	3.17	23,622	.14	98.29	3.18	4,955	.03	98.71	1,694	.01	98.28	2	3.31	35,090	.06	99.65	1
3.18	5,968	.04	98.30	3.18	143,425	.87	99.16	3.18	9,287	.05	98.76	61,399	.43	98.71	2	3.32	22,635	.04	99.69	2
3.20	3,232	.02	98.32	3.19	3,982	.02	99.18	3.21	9,367	.05	98.81	8,479	.05	98.76	2	3.34	10,822	.02	99.71	1
3.21	7,026	.05	98.37	3.20	2,351	.01	99.19	3.22	7,022	.04	98.85	2,583	.02	98.78	1	3.36	14,564	.02	99.73	1
3.22	4,799	.03	98.40	3.21	7,196	.04	99.23	3.23	70,748	.24	99.02	34,656	.24	99.02	2	3.40	27,958	.04	99.77	1
3.24	3,523	.01	98.42	3.22	7,819	.05	99.26	3.24	21,047	.12	99.37	4,451	.03	99.05	1	3.41	18,668	.04	99.80	2
3.25	1,872	.01	98.43	3.23	3,202	.02	99.30	3.25	10,663	.06	99.46	4,565	.03	99.06	1	3.46	27,897	.04	99.84	1
3.26	1,858	.01	98.44	3.24	3,245	.03	99.32	3.26	4,558	.03	99.46	7,223	.05	99.13	1	3.49	16,917	.03	99.87	1
3.30	23,815	.15	98.59	3.25	8,387	.05	99.37	3.27	5,966	.03	99.49	2,444	.02	99.15	1	3.56	17,488	.03	99.90	1
3.31	6,226	.04	98.63	3.26	60,590	.36	99.73	3.28	13,698	.08	99.57	4,690	.02	99.18	1	3.57	13,339	.02	99.92	1
3.36	9,870	.06	98.69	3.27	2,261	.01	99.74	3.29	15,856	.09	99.66	2,802	.02	99.20	1	3.58	36,414	.06	99.98	1
3.37	8,743	.06	98.75	3.28	21,098	.12	99.86	3.30	4,597	.03	99.69	3,848	.03	99.23	1	3.59	10,778	.02	100.00	1
3.38	5,869	.04	98.79	3.29	1,727	.01	99.87	3.31	4,481	.03	99.72	2,479	.02	99.26	1	3.73				
3.39	35,697	.23	99.02	3.30	1,294	.01	99.88	3.32	9,476	.05	99.77	15,674	.11	99.36	1					
3.41	4,242	.03	99.05	3.31	5,685	.03	99.91	3.33	19,267	.11	99.81	6,888	.04	99.40	1					
3.42	4,613	.02	99.10	3.32	8,976	.03	99.97	3.34	5,022	.03	99.98	2,394	.02	99.43	1					
3.44	3,868	.02	99.12	3.33	3,010	.02	99.99	3.35	4,284	.02	99.98	9,075	.06	99.48	1					
3.46	3,431	.02	99.12	3.34	1,436	.01	100.00	3.36	4,284	.02	99.98	1,274	.01	99.49	1					
3.63	9,376	.06	99.18	3.37	1,436	.01	100.00	3.37	2,916	.02	99.98	14,073	.10	99.59	1					

TABLE 30.—Total "Revised" f. o. b. mine cost, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.	Per ton cost by group-ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Number of companies by group-ing.
\$3.67	3,447	0.02	98.20	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.70	94,511	.62	98.82	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.76	2,132	.01	98.83	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.77	2,061	.01	98.84	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.79	1,371	.01	98.85	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.83	3,700	.02	98.87	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.85	2,206	.01	98.88	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3.98	4,833	.03	98.91	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.06	1,237	.01	98.92	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.20	1,944	.01	98.93	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.26	5,809	.04	98.97	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.28	2,020	.02	98.99	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
4.71	1,569	.01	100.00	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2.11	15,548,833	100.00	100.00	425	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
					\$2.12	16,653,747	100.00	100.00	425	2.19	17,367,226	100.00	100.00	425	2.43	14,392,932	100.00	100.00	425	\$2.21	63,962,057	100.00	100.00	425					

TABLE 31.—Total sales realization, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.

[Based on net tons of 2,000 pound ds.]

January-March, 1918, inclusive.					April-June, 1918, inclusive.					July-September, 1918, inclusive.					October-December, 1918, inclusive.					Year, 1918.				
Per ton by \$0.01 group- ing.	Sales tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com- pa- r- i- t- e- s by group- ing.	Per ton by \$0.01 group- ing.	Sales tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com- pa- r- i- t- e- s by group- ing.	Per ton by \$0.01 group- ing.	Sales tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com- pa- r- i- t- e- s by group- ing.	Per ton by \$0.01 group- ing.	Sales tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com- pa- r- i- t- e- s by group- ing.	Per ton by \$0.01 group- ing.	Sales tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com- pa- r- i- t- e- s by group- ing.
\$1.91	396,649	2.69	2.69	2	\$1.76	814	0.01	0.01	2	\$1.63	761	0.00	0.00	2	\$1.71	1,139	0.01	0.01	2	\$2.05	6,975	0.01	0.01	2
2.02	355,808	2.41	5.10	3	2.14	4,978	.03	.03	1	1.99	4,954	.03	.03	1	2.09	5,683	.04	.05	1	2.20	187,947	.31	.32	1
2.20	70,642	.48	5.58	3	2.20	48,511	.31	.35	1	2.15	15,151	.09	.12	1	2.14	121,484	.88	.93	1	2.26	17,954	.03	.35	1
2.24	8,939	.06	5.64	2	2.25	16,153	.10	.45	1	2.20	44,780	.27	.39	1	2.17	3,358	.03	.96	1	2.31	57,402	.09	.44	1
2.26	34,920	.23	5.87	2	2.35	47,013	.30	.75	1	2.28	115,203	.70	1.09	1	2.20	42,647	.31	1.27	1	2.37	174,962	.27	.71	1
2.27	4,261	.03	5.90	1	2.38	24,136	.15	.90	1	2.32	14,719	.09	1.18	1	2.35	16,056	.12	1.39	1	2.45	563,189	.03	1.04	1
2.33	7,213	.11	6.41	2	2.39	19,201	.06	.96	1	2.34	70,088	.42	1.60	1	2.41	19,436	.14	1.53	1	2.46	54,721	.09	1.73	1
2.35	48,614	.33	6.74	2	2.42	27,504	.14	1.10	1	2.37	43,653	.26	1.86	1	2.44	25,018	.19	1.82	1	2.47	130,252	.21	1.95	1
2.36	119,264	.81	7.53	2	2.43	131,821	.84	1.94	2	2.37	87,558	.49	2.35	2	2.45	35,072	.28	2.08	1	2.50	34,340	.11	2.05	1
2.40	19,244	.13	7.68	1	2.44	9,471	.06	2.00	1	2.45	178,272	1.08	3.43	2	2.47	14,576	.11	2.09	1	2.51	288,250	.48	2.53	2
2.43	14,172	.10	7.78	1	2.46	185,388	1.18	3.18	2	2.49	69,733	.42	3.85	3	2.57	60,853	.44	2.53	3	2.52	78,050	.13	2.66	1
2.44	78,270	.53	8.31	1	2.48	17,474	.11	3.29	1	2.50	5,935	.04	3.89	3	2.58	132,912	.07	3.50	1	2.55	594,764	.93	3.59	1
2.45	37,408	.25	8.56	2	2.49	19,745	.13	3.42	1	2.54	25,306	.15	4.04	2	2.60	90,107	.07	4.10	1	2.56	224,588	.37	3.96	1
2.47	37,331	.25	8.81	1	2.50	17,897	.11	3.53	1	2.55	50,908	.31	4.35	3	2.61	9,293	.07	4.23	1	2.57	323,280	.53	4.49	1
2.48	42,640	.29	9.10	2	2.51	148,991	.94	4.47	1	2.59	92,751	.56	4.91	3	2.65	34,322	.25	4.48	1	2.58	66,071	.15	4.64	1
2.50	128,647	.87	9.97	1	2.53	113,614	.72	5.19	1	2.60	154,214	.93	5.84	1	2.66	8,727	.03	4.51	1	2.59	23,888	.04	4.68	1
2.52	46,074	.31	10.28	2	2.55	20,884	.13	5.32	2	2.61	6,881	.04	5.88	1	2.67	3,901	.03	4.54	1	2.60	308,139	.51	5.19	2
2.53	94,005	.64	10.92	2	2.56	5,049	.03	5.35	1	2.66	7,771	.05	5.93	1	2.69	1,710	.01	4.55	1	2.63	37,757	.06	5.25	1
2.54	14,853	.10	11.02	1	2.59	63,286	.40	5.75	2	2.67	9,788	.06	5.99	1	2.70	33,068	.04	4.79	2	2.64	74,424	.12	5.37	1
2.55	36,767	.25	11.27	1	2.67	9,770	.06	5.81	1	2.69	38,640	.24	6.23	2	2.71	59,183	.43	5.22	1	2.66	43,656	.07	5.44	1
2.59	119,470	.81	12.08	3	2.68	25,613	.16	5.97	1	2.70	24,279	.15	6.38	1	2.72	21,154	.16	5.98	3	2.67	49,146	.08	5.52	1
2.62	2,061	.01	12.09	1	2.70	62,462	.39	6.36	3	2.72	29,283	.18	6.56	3	2.73	83,156	.01	5.95	3	2.68	1,455,938	.29	5.88	1
2.63	16,433	.11	12.20	1	2.71	6,964	.04	6.40	1	2.75	14,401	.09	6.65	1	2.74	20,249	.04	6.13	2	2.70	29,167	.04	7.95	1
2.64	155,021	1.05	13.25	5	2.72	47,032	.30	6.70	1	2.77	19,473	.12	6.77	1	2.75	5,990	.04	6.17	1	2.71	24,192	.04	7.99	1
2.65	20,117	.13	13.38	3	2.73	40,343	.26	6.96	2	2.78	48,518	.29	7.06	1	2.76	72,073	.53	6.70	3	2.73	84,518	.14	8.13	3

TABLE 31.—Total sales realization, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton by \$0.01 group-ing.	Sales by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group-ing.	Num-ber of com-panies by group-ing.	Per ton by \$0.01 group-ing.	Sales by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group-ing.	Num-ber of com-panies by group-ing.	Per ton by \$0.01 group-ing.	Sales by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group-ing.	Num-ber of com-panies by group-ing.	Per ton by \$0.01 group-ing.	Sales by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group-ing.	Num-ber of com-panies by group-ing.	Per ton by \$0.01 group-ing.	Sales by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group-ing.	Num-ber of com-panies by group-ing.
\$2.66	10,435	0.07	13.45	1	1	2.75	28,275	0.18	7.14	1	1	2.79	328,220	1.98	9.04	1	1	2.77	30,176	0.07	6.77	1	1	2.74	1,179,774	1.94	10.07	1	1
2.67	29,609	0.18	13.43	3	3	2.76	23,043	0.15	7.29	1	1	2.80	40,513	0.25	9.29	2	2	2.78	45,857	0.33	7.10	1	1	2.75	307,902	0.51	10.58	4	4
2.68	71,890	0.52	14.15	4	4	2.77	22,558	0.14	7.43	3	3	2.81	19,272	0.12	9.41	1	1	2.79	228,864	1.67	8.77	1	1	2.76	140,347	0.23	10.81	1	1
2.70	301,843	2.04	16.19	7	7	2.78	38,122	0.24	7.67	3	3	2.82	99,452	0.61	10.02	3	3	2.80	99,500	0.72	9.48	5	5	2.77	45,022	0.08	10.89	1	1
2.71	42,835	0.30	16.49	3	3	2.79	10,745	0.07	7.74	1	1	2.83	65,978	0.41	10.43	3	3	2.81	162,753	1.19	10.68	4	4	2.78	15,041	0.02	10.91	1	1
2.72	27,977	0.18	16.67	3	3	2.80	17,182	0.11	7.85	2	2	2.84	21,199	0.13	10.56	2	2	2.82	58,043	0.44	11.12	3	3	2.79	153,993	0.23	11.14	4	4
2.73	64,680	0.44	17.11	1	1	2.82	31,497	0.20	8.05	1	1	2.85	97,396	0.59	11.15	2	2	2.83	119,204	0.87	11.99	3	3	2.80	15,056	0.02	11.16	1	1
2.74	37,290	0.25	17.36	1	1	2.83	46,534	0.30	8.35	4	4	2.86	15,032	0.11	11.26	3	3	2.84	373,135	2.72	14.71	2	2	2.81	50,086	0.08	11.24	1	1
2.75	89,448	0.55	17.91	5	5	2.85	336,217	2.13	10.48	1	1	2.87	156,666	0.94	12.20	3	3	2.85	120,814	0.87	15.58	2	2	2.82	443,563	0.74	11.98	1	1
2.76	157,470	1.07	18.98	4	4	2.86	37,916	0.24	10.72	1	1	2.88	86,816	0.52	12.72	3	3	2.86	42,499	0.31	15.89	4	4	2.83	173,271	0.29	12.27	1	1
2.77	171,176	1.15	20.13	3	3	2.87	38,296	0.25	10.97	2	2	2.89	15,084	0.09	12.81	2	2	2.87	23,395	0.17	16.06	2	2	2.84	571,905	0.93	13.29	6	6
2.78	178,028	1.20	21.33	8	8	2.88	13,014	0.08	11.05	1	1	2.90	497,753	3.00	13.81	6	6	2.88	205,793	1.49	17.53	8	8	2.85	1,575,394	2.57	15.77	5	5
2.79	61,878	0.42	21.73	2	2	2.89	97,972	0.62	11.97	4	4	2.91	87,161	0.53	13.34	5	5	2.89	72,461	1.53	18.08	6	6	2.86	689,164	1.13	16.90	6	6
2.80	245,031	1.67	23.42	7	7	2.90	10,990	0.07	11.74	2	2	2.92	371,831	2.24	15.38	12	12	2.90	296,848	1.93	20.01	13	13	2.87	986,178	0.97	17.87	5	5
2.81	240,094	1.64	25.06	4	4	2.91	98,066	0.63	12.37	2	2	2.93	495,320	2.77	21.35	12	12	2.91	224,271	1.62	21.63	10	10	2.88	481,839	0.81	18.68	6	6
2.82	76,680	0.52	25.58	3	3	2.92	114,444	0.73	13.10	6	6	2.94	603,778	3.63	24.08	20	20	2.92	186,624	1.24	23.97	14	14	2.89	480,277	0.79	19.47	7	7
2.83	59,653	0.43	26.33	5	5	2.93	205,471	1.28	14.78	7	7	2.95	3,093,778	18.52	44.50	109	109	2.93	370,499	2.76	25.73	22	22	2.90	660,339	1.10	20.57	7	7
2.84	21,971	0.19	26.88	5	5	2.94	188,375	1.37	15.45	7	7	2.96	529,570	18.21	53.71	127	127	2.94	1,004,709	7.35	33.08	26	26	2.91	1,492,898	2.35	22.92	11	11
2.85	76,030	0.54	26.99	5	5	2.95	160,057	1.01	16.66	7	7	2.97	255,290	7.57	60.28	13	13	2.95	1,886,855	13.71	46.79	92	92	2.92	761,639	1.25	24.17	8	8
2.86	9,663	0.06	27.05	2	2	2.96	96,080	0.62	17.28	7	7	2.98	393,361	2.36	62.64	13	13	2.96	1,108,872	8.06	54.59	20	20	2.93	1,726,241	2.84	27.01	11	11
2.87	175,319	1.18	28.23	7	7	2.97	284,442	1.80	19.08	13	13	2.99	377,716	2.27	64.91	7	7	2.97	375,024	2.74	57.59	11	11	2.94	540,583	0.90	27.91	10	10
2.88	14,071	0.10	28.33	4	4	2.98	107,833	0.68	19.76	9	9	3.00	141,886	0.87	65.78	8	8	2.98	313,813	2.29	59.88	12	12	2.95	1,021,677	1.69	29.60	13	13
2.89	171,103	1.15	29.48	8	8	2.99	326,260	2.09	21.85	17	17	3.01	404,226	2.44	68.22	6	6	2.99	1,053,512	7.68	67.56	12	12	2.96	2,047,283	3.47	33.07	15	15
2.90	96,483	0.65	30.13	2	2	3.00	649,204	4.10	25.95	31	31	3.02	323,380	1.95	70.17	7	7	3.00	985,377	6.81	74.37	5	5	2.97	3,296,168	5.44	38.51	12	12

2.92	74.087	51	30.84	71	3.012	201.851	12.66	88.61	50	3.03	126.623	77	70.94	6	3.01	94.530	.69	75.06	6	2.98	2,147,952	3.52	42.08	25
2.93	77.640	64	31.38	6	3.02	1,065,081	6.76	45.37	20	3.04	279,388	1.69	72.63	5	3.02	141,597	1.01	76.09	5	2.99	925,609	1.53	43.56	14
2.94	162,549	1.11	32.49	2	3.03	968,498	6.13	51.50	14	3.06	1,087,773	6.53	73.16	4	3.05	138,065	1.03	77.10	4	3.00	1,935,862	3.19	46.75	9
2.95	742,212	5.04	37.53	4	3.04	181,068	1.15	62.66	9	3.07	71,020	.43	80.23	3	3.06	5,809	.04	77.14	1	3.01	403,768	.65	47.40	7
2.96	592,877	4.01	41.54	8	3.05	995,510	6.31	84.96	9							182,965	1.34	78.48	5	3.02	1,182,819	1.96	46.36	11
2.97	84,399	23	41.77	1	3.06	440,890	2.78	61.74	5	3.08	355,397	22	80.45	2	3.06	116,494	.85	79.33	5	3.03	2,684,632	4.40	53.76	5
2.98	263,041	1.17	41.94	3	3.07	118,015	2.14	64.61	8		365,968	2.15	82.60	5	3.07	44,374	.53	79.66	3	3.04	1,769,354	2.90	65.96	13
2.99	107,502	1.79	43.73	8	3.08	357,356	2.71	64.61	10		116,452	.70	83.16	6	3.08	385,800	2.44	82.70	3	3.05	653,041	1.07	57.53	11
3.00	111,669	1.74	44.57	7	3.09	112,443	2.17	67.82	9		9,779	.96	83.26	1	3.09	51,860	.26	82.76	1	3.07	2,128,179	3.49	62.52	11
3.01		77	45.24	3	3.10	393,266	2.50	67.82	6		24,510	.93	85.51	2	3.10	31,687	.26	86.04	1	3.07	2,128,179	3.49	62.52	11
3.02	200,731	1.35	48.59	5	3.11	346,684	2.20	70.92	10	3.13	7,200	.04	83.55	2	3.11	16,340	.19	83.16	2	3.08	1,707,259	2.81	65.13	11
3.03	164,692	1.27	48.96	4	3.12	46,921	2.00	70.92	3	3.14	5,002	.04	83.58	2	3.12	26,627	.17	83.43	2	3.09	1,140,111	1.89	67.02	12
3.04	184,707	1.26	49.22	5	3.13	110,589	.70	71.02	4	3.15	67,624	.08	83.58	2	3.13	139,545	.12	84.45	2	3.10	1,261,607	2.08	69.10	13
3.05	370,432	2.51	50.73	2	3.14	68,328	.42	71.02	7	3.16	47,100	.39	84.28	1	3.14	184,588	1.24	85.70	1	3.11	1,445,385	2.38	71.48	8
3.06	84,739	2.23	50.96	2	3.15	40,845	.27	71.72	5	3.17	46,888	.36	84.58	2	3.15	31,911	.23	88.02	3	3.12	539,249	.88	72.36	4
3.07	107,699	73	51.69	4	3.16	122,247	.80	72.52	7	3.18	11,821	.07	84.65	2	3.16	55,161	.41	86.43	4	3.13	1,292,408	2.10	74.46	8
3.08	69,830	41	52.10	3	3.17	79,070	.70	73.02	5	3.19	60,953	.28	86.71	2	3.17	39,138	.71	82.17	3	3.14	4,692,414	7.71	82.31	13
3.09	92,667	5.83	52.73	6	3.18	48,251	.32	73.34	2	3.20	33,298	.21	85.23	1	3.18	25,528	.19	86.90	2	3.15	84,218	.14	82.31	2
3.10	858,855	5.83	53.56	3	3.19	148,661	.98	74.27	4	3.21	13,668	.08	85.31	1	3.19	101,178	.10	87.64	1	3.16	71,068	.11	82.61	2
3.12	23,818	1.17	53.73	8	3.20	43,969	.28	74.55	1	3.22	158,291	.96	86.27	5	3.21	80,496	.59	88.23	3	3.17	115,379	.19	82.61	2
3.13	1,837	.01	53.74	1	3.21	182,016	1.15	75.70	4	3.23	112,619	.68	86.95	1	3.23	57,234	.42	88.65	1	3.18	37,010	.06	82.67	2
3.14	43,330	.30	59.04	7	3.22	14,387	.10	75.80	2	3.24	32,677	.20	87.15	3	3.24	22,900	.17	88.82	1	3.19	394,953	.65	83.32	3
3.15	824,281	5.60	64.64	7	3.23	73,165	.46	76.26	2	3.25	89,533	.54	87.69	3	3.25	87,192	.64	89.46	4	3.20	350,180	.58	83.90	5
3.16	83,800	5.67	65.31	3	3.24	21,987	.14	76.40	3	3.27	66,664	.40	88.09	4	3.26	149,020	1.08	90.54	1	3.21	183,979	.32	84.22	2
3.17	96,096	.65	65.86	4	3.25	876,364	5.57	81.97	3	3.28	35,749	.22	88.31	1	3.27	1,701	.01	90.55	1	3.22	108,837	.17	84.39	2
3.18	43,381	.30	66.16	3	3.26	99,793	.62	82.59	3	3.29	58,066	.35	88.66	1	3.28	57,234	.14	91.58	3	3.23	493,874	.81	85.20	3
3.19	132,897	.90	67.06	7	3.27	40,283	.25	82.84	1	3.30	100,843	.61	89.27	8	3.29	62,984	.46	92.04	2	3.24	233,928	.39	85.59	2
3.20	19,571	.14	67.20	3	3.28	92,768	.59	83.43	3	3.31	8,416	.05	89.32	2	3.30	111,905	.82	92.86	4	3.25	110,889	.18	85.77	2
3.21	45,738	.32	67.52	6	3.29	23,769	.15	83.58	1	3.32	92,911	.56	89.38	2	3.31	13,777	.19	92.86	2	3.26	201,608	.83	86.10	4
3.22	60,375	.42	67.94	3	3.30	159,188	1.01	84.59	2	3.33	23,138	.14	90.02	2	3.32	14,685	.11	93.07	1	3.27	556,005	.98	87.08	7
3.23	17,272	.22	68.06	2	3.31	11,140	.07	84.66	1	3.35	14,051	.08	90.10	1	3.35	3,154	.02	93.09	1	3.28	187,359	.31	87.34	3
3.24	12,691	.09	68.15	2	3.32	35,732	.23	84.89	1	3.36	21,007	.10	90.24	2	3.37	44,994	.34	93.43	3	3.29	279,414	.45	87.79	2
3.25	81,288	.54	68.69	4	3.34	46,305	.30	85.19	5	3.37	70,748	.13	90.67	2	3.38	19,257	.14	93.57	2	3.30	34,448	.08	87.84	2
3.26	175,371	1.18	69.87	6	3.35	49,159	.31	85.50	3	3.39	24,133	.45	90.87	2	3.39	4,399	.41	93.60	1	3.32	1,044,251	1.72	89.56	3
3.27	352,965	2.40	72.27	4	3.36	85,558	.55	86.05	2	3.40	4,727	.03	90.85	1	3.45	28,955	.21	93.81	2	3.33	36,121	.06	89.62	1
3.28	996,474	6.26	73.63	8	3.38	16,490	.10	86.15	1	3.41	166,975	1.01	91.86	3	3.47	6,717	.05	93.86	1	3.35	127,467	.21	89.83	4
3.29	2,206	.21	75.64	3	3.39	61,321	.39	86.54	2	3.42	38,642	.21	92.09	1	3.48	10,944	.08	93.94	1	3.36	20,476	.08	89.86	1
3.30	87,690	.59	79.23	3	3.40	60,589	.39	86.93	1	3.43	167,787	1.01	93.10	3	3.49	1,501	.01	93.95	1	3.37	20,490	.08	89.89	1
3.31	79,263	.79	79.26	1	3.41	228,596	1.42	86.35	4	3.45	26,531	.16	93.26	2	3.49	3,390	.03	93.98	1	3.38	17,807	.08	89.82	1
3.32	3,283	.02	79.26	3	3.42	13,770	.08	86.43	2	3.47	4,528	.03	93.29	1	3.71	60,318	.44	94.43	1	3.40	31,621	.05	89.97	2
3.33	249,047	1.68	80.93	5																				
3.34	45,355	.31	81.24	2	3.43	8,387	.05	88.48	1	3.55	75,672	.46	93.75	1	3.76	4,165	.03	94.45	1	3.41	675,822	1.11	91.08	2
3.35	694,699	.20	85.97	3	3.44	20,766	.13	88.61	1	3.58	72,968	.27	93.66	2	4.23	728,967	6.31	99.76	1	3.42	148,379	.24	91.32	2
3.36	17,645	.13	86.10	3	3.45	41,599	.26	88.87	2	3.59	4,248	.01	93.95	1	4.23	19,038	.14	99.96	1	3.43	33,581	.06	91.38	2
3.37	33,240	.23	86.33	1	3.47	23,411	.15	89.02	1	3.60	1,838	.01	93.96	1	4.60	10,719	.08	99.98	1	3.45	46,687	.06	91.46	1
3.38	72,468	.49	86.82	4	3.50	150,099	.95	89.97	1	3.64	6,072	.06	94.01	1	4.67	3,274	.02	100.00	1	3.46	832,861	1.99	92.85	3

COST REPORTS OF THE FEDERAL TRADE COMMISSION.

TABLE 31.—Total sales realization, by quarterly and yearly periods for 1918, for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

January-March, 1918, inclusive.						April-June, 1918, inclusive.						July-September, 1918, inclusive.						October-December, 1918, inclusive.						Year, 1918.					
Per ton by group-	Sales tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-		Per ton by group-	Sales tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-		Per ton by group-	Sales tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-		Per ton by group-	Sales tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-		Per ton by group-	Sales tonnage (net tons).	Per cent total.	Accumulated per cent.	Number of companies by group-	
\$3.39	8,016	0.05	86.87	1		\$3.51	2,746	0.02	89.99	1		\$3.68	3,142	0.02	94.03	1		\$3.47	27,800	0.05	92.90	1		\$3.47	27,800	0.05	92.90	1	
3.40	4,630	.03	86.90	2		3.52	30,220	.19	90.18	2		3.69	19,530	.11	94.14	2		3.53	89,737	.15	93.05	2		3.53	89,737	.15	93.05	2	
3.41	28,302	.19	87.06	3		3.53	88,203	.56	90.74	3		3.74	833,603	5.04	99.18	3		3.58	40,870	.07	93.12	3		3.58	40,870	.07	93.12	3	
3.42	18,363	.15	87.24	2		3.54	30,884	.19	90.43	1		3.81	79,053	.48	99.60	1		3.63	6,831	.01	93.13	1		3.63	6,831	.01	93.13	1	
3.44	18,069	.13	87.37	1		3.56	46,576	.30	91.23	1		3.86	3,251	.02	99.68	1		3.67	8,885	.01	93.14	1		3.67	8,885	.01	93.14	1	
3.45	68,731	.47	87.84	4		3.57	4,297	.03	91.20	1		3.94	5,778	.03	99.71	1		3.68	428,800	.71	93.85	1		3.68	428,800	.71	93.85	1	
3.46	114,252	.78	88.02	1		3.58	65,419	.41	91.72	1		4.16	22,142	.13	99.84	1		3.71	3,145,239	5.17	99.02	1		3.71	3,145,239	5.17	99.02	1	
3.47	254,175	1.72	90.34	6		3.59	7,817	.05	91.79	1		4.30	19,752	.12	99.96	1		3.73	319,858	.53	99.55	1		3.73	319,858	.53	99.55	1	
3.48	9,949	.07	90.41	2		3.63	32,015	.20	91.92	1		4.41	5,956	.04	100.00	1		3.80	18,220	.03	99.58	1		3.80	18,220	.03	99.58	1	
3.49	16,884	.11	90.52	3		3.68	33,058	.08	92.00	1								3.82	12,279	.02	99.60	1		3.82	12,279	.02	99.60	1	
3.51	34,135	.24	90.70	3		3.69	90,923	.58	92.58	1																			
3.52	7,124	.05	90.81	1		3.72	6,288	.03	92.61	1																			
3.53	10,628	.07	90.88	1		3.75	6,181	.04	92.65	1																			
3.54	25,828	.18	91.06	3		3.77	27,218	.17	92.82	1																			
3.55	47,439	.33	91.39	2		3.78	9,846	.06	92.88	1																			
3.56	37,649	.26	91.65	1		3.79	2,379	.02	92.90	1																			
3.57	17,156	.11	91.70	2		3.81	135,454	.86	93.76	1																			
3.59	8,790	.06	91.82	1		3.83	774,333	4.91	98.67	1																			
3.60	166,276	1.13	92.95	1		3.87	24,951	.16	98.83	2																			
3.61	24,114	.16	93.11	1		3.91	31,188	.19	99.02	3																			
3.62	60,649	.41	93.52	3		4.19	19,916	.13	99.15	1																			
3.64	86,756	.59	94.11	1		4.37	6,799	.04	99.19	1																			
3.65	55,709	.37	94.48	2		4.41	12,582	.08	99.27	1																			
3.67	13,522	.09	94.57	1		4.44	115,005	.73	100.00	1																			
3.69	10,985	.07	94.64	1																									

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3.71	20,424	14,94.78	1
3.72	21,039	15,94.68	2
3.73	13,043	08,95.01	2
3.74	124,549	85,98.98	1
3.75	35,559	23,96.09	1
3.76			
3.77	4,799	03,96.12	1
3.78	90,233	02,96.74	3
3.79	22,632	13,96.89	2
3.80	85,361	38,97.47	1
3.81			
3.82	120,940	82,98.26	2
3.83			
3.84	1,872	01,98.30	1
3.85	57,043	39,98.69	2
3.86	11,957	08,98.77	2
3.87	96,277	66,99.43	1
3.88			
3.89	4,051	03,99.46	1
3.90			
3.91	9,376	06,99.52	1
3.92	2,246	01,99.53	1
3.93	8,192	06,99.59	1
3.94	4,115	03,99.62	1
3.95	10,257	07,99.69	1
3.96			
3.97			
3.98	3,041	02,99.71	1
3.99	3,837	03,99.74	1
4.00	15,162	10,99.84	1
4.01	4,431	01,99.85	1
4.02	1,237	01,99.85	1
4.03	5,273	04,99.89	1
4.04			
4.05			
4.06	2,620	02,99.91	1
4.07	12,838	09,100.00	1
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Charts 8 and 9 (facing p. 90) show the total quarterly production and averages in graphic form.

A summary of the significant facts brought out in Tables 27 to 31 appears in Table 32, in which are compared the true average cost, the range in cost of 90 per cent of the output which had the lowest costs and sales realizations, and the extreme range shown for the entire output of the 425 operators.

TABLE 32.—1918 quarterly and yearly "Revised" costs and sales realization of 425 operators, showing averages and range for 90 per cent and for 100 per cent of total output.

Period.	Costs per ton.										Sales realization, per ton.	
	Labor.					Supplies.					Total f. o. b. mine.	
	General expense.					Range.					Range.	
	Aver- age.	90 per cent output.	100 per cent output.	Aver- age.	90 per cent output.	100 per cent output.	Aver- age.	90 per cent output.	100 per cent output.	Aver- age.	90 per cent output.	100 per cent output.
January-March.....	\$1.58	\$0.77-\$1.94	\$0.77-\$3.52	\$0.23	\$0.0-\$0.33	\$0.0-\$1.06	\$0.30	\$0.07-\$0.43	\$0.07-\$1.69	\$2.11	\$1.16-\$2.59	\$1.16-\$4.71
April-June.....	1.57	.49-1.90	.49-2.82	.25	.0-.35	.0-.86	.30	.07-.44	.07-1.34	2.12	1.48-2.64	1.48-3.81
July-September.....	1.61	.71-1.99	.71-3.08	.28	.0-.39	.0-.74	.30	.07-.43	.07-1.34	2.19	1.48-2.70	1.48-4.57
October-December....	1.71	.77-2.11	.77-3.47	.35	.0-.52	.0-1.40	.37	.07-.62	.07-2.06	2.43	1.52-2.90	1.52-5.63
Year.....	1.62	.67-2.00	.67-2.85	.27	.0-.39	.0-.75	.32	.10-.46	.10-1.36	2.21	1.55-2.71	1.55-3.73
										3.05	2.05-3.41	2.05-4.35



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5. *Comparison of "Claimed" and "Revised" costs.*—The foregoing tables present costs which have in some cases been "Revised," by the accountants of the Commission, from the "Claimed" figures reported on the original schedules by the operators. The following table shows the "Claimed" 1918 costs, compiled in all cases directly from the figures submitted by the operators:

TABLE 33.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania.

Labor cost.					Supply cost.					General expenses.					Total f. o. b. mine cost.				
Per ton cost by \$0.01 group- ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group- ing.	Per ton cost by \$0.01 group- ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by \$0.01 group- ing.
\$0.65	89,606	0.14	0.14	1	.....	86,956	0.13	0.13	4	\$0.07	96,653	0.15	0.15	1	\$1.54	32,614	0.05	0.05	1
1.07	32,614	0.05	0.19	1	0.01	29,257	0.04	0.17	2	0.10	1,217,396	1.87	2.02	1	1.58	185,658	0.24	0.24	1
1.13	266,253	0.41	0.60	2	0.02	37,777	0.06	0.23	2	0.12	50,982	0.08	2.10	1	1.64	150,491	0.23	0.57	1
1.15	151,700	0.23	0.83	1	0.04	54,600	0.08	0.31	2	0.12	213,090	0.33	2.43	1	1.66	107,476	0.74	0.74	1
1.16	138,622	0.21	1.04	1	0.05	65,654	0.10	0.41	2	0.13	20,456	0.03	2.46	1	1.69	180,285	0.27	1.01	2
1.18	415,751	0.64	1.68	1	0.06	72,930	0.11	0.52	3	0.14	2,177,258	3.35	5.81	4	1.70	268,727	0.41	1.42	2
1.21	278,770	0.43	2.11	2	0.07	164,520	0.25	0.77	2	0.17	133,979	0.20	6.01	5	1.71	187,947	0.29	1.71	3
1.22	361,242	0.55	2.66	3	0.08	189,235	0.28	1.05	5	0.18	2,112,893	3.24	9.25	4	1.73	747,784	1.15	2.86	3
1.23	24,641	0.04	2.70	1	0.10	155,026	0.23	1.28	3	0.19	72,369	0.11	9.36	1	1.74	25,013	0.04	2.90	1
1.25	610,572	0.94	3.64	2	0.11	349,497	0.53	1.81	7	0.20	562,401	0.77	10.13	4	1.75	127,292	0.20	3.10	1
1.26	467,794	0.72	4.36	3	0.12	1,466,638	2.25	4.06	11	0.21	2,065,394	3.15	13.28	11	1.76	1,464,251	0.28	5.38	1
1.27	211,845	0.32	4.68	2	0.13	724,074	1.10	5.16	11	0.22	2,396,840	3.67	16.95	6	1.77	1,326,825	0.04	7.42	2
1.28	133,041	0.20	4.88	3	0.14	895,745	1.37	6.53	7	0.23	7,724,059	11.86	28.81	11	1.78	341,065	0.52	7.94	2
1.29	82,639	0.13	5.01	1	0.15	579,237	0.88	7.41	8	0.24	389,453	0.61	29.42	3	1.79	21,544	0.03	7.97	1
1.30	158,545	0.25	5.26	2	0.16	982,660	1.50	8.91	11	0.25	2,335,608	3.59	33.01	12	1.80	203,760	0.32	8.29	3
1.31	2,325,268	3.57	8.83	3	0.17	1,547,105	2.39	11.30	13	0.26	987,546	1.52	34.53	10	1.81	224,291	0.34	8.63	1
1.32	1,237,929	1.91	10.74	2	0.18	566,049	1.82	12.17	8	0.27	2,768,065	4.24	38.77	9	1.82	151,700	0.23	8.86	3
1.33	1,637,982	2.52	13.26	2	0.19	872,382	1.32	13.49	12	0.28	1,303,741	2.00	40.77	9	1.84	990,126	1.52	10.38	3
1.34	1,446,104	0.68	13.94	5	0.20	1,460,240	2.27	15.76	15	0.29	1,963,403	3.01	43.78	11	1.85	2,074,268	3.19	13.57	3
1.35	132,252	0.20	14.14	2	0.21	1,418,746	2.20	17.96	18	0.30	1,852,222	1.32	45.10	10	1.86	1,356,473	2.08	15.65	4

TABLE 33.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

Labor cost.					Supply cost.					General expenses.					Total f. o. b. mine cost.				
Per ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.	Per ton cost by \$0.01 group-ing.	Production by tonnage (net tons).	Per cent of total.	Accumulated by per cent.	Num-ber of com-panies by \$0.01 group-ing.
1.36	1,106,773	1.70	15.84	3	\$0.22	1,205,305	1.84	19.80	12	\$0.31	919,157	1.41	46.51	3	\$1.87	115,345	0.17	15.82	3
1.37	3,633,594	5.57	21.41	4	.23	2,813,291	4.34	24.14	16	.32	885,615	1.37	47.88	8	1.88	190,034	.20	16.11	2
1.38	546,380	0.81	22.25	5	.24	1,387,229	2.14	26.28	15	.33	1,511,991	2.32	50.20	9	1.89	1,458,809	2.24	18.35	4
1.39	965,415	1.49	23.74	4	.25	1,833,312	1.28	27.56	9	.34	1,319,329	2.02	52.22	7	1.91	1,083,849	1.67	20.02	2
1.40	1,201,476	1.85	25.59	3	.26	1,869,531	2.86	30.42	9	.35	1,003,514	1.54	53.76	7	1.94	270,396	.41	20.43	3
1.41	543,380	.83	26.42	7	.27	1,279,718	1.97	32.39	11	.36	3,399,459	5.18	58.94	16	1.96	1,058,590	1.62	22.05	5
1.42	1,930,381	2.96	28.38	6	.28	2,085,559	3.21	35.60	10	.37	788,017	1.21	60.15	9	1.97	1,570,683	.88	22.92	3
1.43	1,556,884	1.85	30.23	5	.29	3,870,589	5.06	41.56	12	.38	1,080,054	1.73	61.81	11	1.98	138,806	.31	23.14	2
1.44	714,455	1.10	31.33	6	.30	1,866,943	2.87	44.43	9	.39	5,030,960	7.73	69.54	8	1.99	1,244,556	1.91	25.05	1
1.45	990,973	1.52	32.85	7	.31	4,578,267	7.02	51.45	11	.40	5,662,064	.88	70.40	8	2.00	173,271	.27	25.32	1
1.46	3,793,895	5.82	38.67	4	.32	4,204,067	6.46	57.91	9	.41	791,667	1.21	71.61	11	2.02	197,076	.31	25.63	3
1.47	1,237,362	1.89	40.56	5	.33	3,039,863	4.67	62.58	5	.42	802,466	1.24	72.85	4	2.03	3,410,439	5.25	30.88	5
1.48	1,204,969	1.85	42.41	8	.34	3,200,086	4.90	67.48	9	.43	514,136	1.78	73.63	8	2.04	1,049,421	1.61	32.46	5
1.49	409,298	1.63	43.04	3	.35	2,591,863	3.99	71.47	12	.44	566,837	.87	74.50	4	2.05	1,186,627	1.82	34.31	4
1.50	219,901	.34	43.38	3	.36	3,650,743	5.60	77.07	14	.45	1,174,858	1.80	76.30	8	2.06	635,665	.97	35.28	6
1.51	265,288	.40	43.78	5	.37	1,077,417	1.65	78.72	13	.46	478,859	.74	77.04	6	2.07	3,218,066	4.94	40.22	1
1.52	901,603	1.39	45.17	8	.38	1,930,302	2.97	81.69	11	.47	692,192	1.05	78.10	7	2.08	311,812	.47	40.69	3
1.53	2,666,891	3.95	46.12	10	.39	4,743,880	.73	82.43	7	.48	340,842	.53	78.62	7	2.09	810,020	1.25	41.94	3
1.54	562,768	.87	46.99	4	.40	699,335	1.08	83.50	6	.49	868,568	1.34	79.96	10	2.11	899,258	1.38	43.32	6
1.55	2,278,518	3.49	53.48	6	.41	3,188,996	4.90	88.40	7	.50	106,664	.26	80.22	3	2.12	234,665	.36	43.68	1
1.56	1,085,294	1.67	55.15	6	.42	751,684	1.15	89.55	7	.51	709,297	1.10	81.32	10	2.13	144,437	.22	43.90	3
1.57	224,994	.34	55.49	4	.43	1,038,642	1.59	91.14	9	.52	3,513,345	5.40	86.72	4	2.14	510,267	.78	44.68	2
1.58	419,823	2.35	56.14	6	.45	805,001	1.24	92.38	8	.53	441,923	.67	87.39	5	2.15	407,239	.63	45.30	3
1.59	1,503,554	6.60	56.44	6	.46	129,502	.91	93.57	2	.54	9,537	.01	87.40	1	2.16	716,361	1.10	46.40	4
1.60	774,869	1.19	59.63	3	.47	223,172	.84	92.93	2	.55	641,410	.97	88.37	5	2.17	481,529	.73	47.13	4
1.61	443,625	.67	60.30	4	.48	1,186,987	1.82	94.75	8	.56	381,906	.69	88.96	7	2.18	544,352	.84	47.97	2
1.62	4,003,134	6.14	66.44	5	.49	236,547	.37	95.12	4	.57	315,296	.49	89.45	6	2.19	371,799	.57	48.54	3
1.63	405,185	.62	67.06	5	.50	559,776	.87	95.99	5	.58	243,396	.58	90.82	7	2.20	135,447	.20	48.74	3
1.64	355,388	.55	67.61	3	.51	352,638	.64	96.53	5	.59	1,026,652	1.58	91.40	8	2.21	121,603	.9	48.93	1
1.65	412,281	.64	68.25	6	.52	28,276	.04	98.67	1	.60	315,711	.48	91.88	6	2.22	60,685	.109	49.02	1

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1.67	416,012	64	68.89	53	406,590	62	97.19	3	61	41,958	-07	91.95	2	2.23	2,044,799	3.14	52.16	4
1.67	602,847	77	69.66	54	31,774	05	97.24	1	62	133,503	-19	92.14	7	2.24	3,588,596	5.50	57.66	4
1.68	3,777,984	5.80	75.46	57	203,403	-31	97.55	2	63	280,146	-44	92.58	6	2.25	746,913	1.14	58.80	5
1.68	594,084	92	76.38	58	131,447	-20	97.75	1	64	274,977	-41	92.99	6	2.26	416,945	1.64	59.44	4
1.70	155,539	23	76.61	59	241,731	-37	98.12	2	65	64,760	-10	93.09	2	2.27	279,429	.43	59.87	4
1.71	902,684	1.39	78.00	60	347,062	-53	98.65	3	66	310,763	-48	98.57	3	2.28	38,090	.06	59.93	1
1.72	1,714,260	2.63	80.63	61	330,181	-50	99.15	2	67	754,249	-16	98.73	6	2.29	608,419	.98	60.86	1
1.73	220,654	6.83	80.98	63	64,150	-10	99.25	1	68	139,965	-22	94.95	3	2.30	136,751	.21	61.07	3
1.74	236,245	36	81.34	64	52,578	-08	99.33	2	69	27,976	-04	94.99	1	2.31	316,710	.49	61.56	3
1.75	143,860	22	81.56	76	302,823	-47	99.80	2	71	107,029	-16	95.15	2	2.32	35,887	.06	61.62	1
1.76	84,858	13	81.69	81	117,066	-18	99.98	1	73	217,778	-33	95.48	4	2.33	38,249	.06	61.68	2
1.77	158,835	25	81.94	89	15,994	-02	100.00	1	73	176,631	-27	95.75	1	2.34	77,990	.12	61.80	2
1.78	62,187	10	82.04	89	15,994	-02	100.00	1	74	98,935	-14	95.89	3	2.35	265,675	.39	62.19	4
1.79	473,155	73	82.77	89	15,994	-02	100.00	1	75	131,447	-20	96.09	1	2.36	994,161	1.53	63.72	10
1.80	285,724	46	83.23	89	15,994	-02	100.00	1	76	706,434	-109	97.18	5	2.37	896,892	1.38	65.10	2
1.81	194,731	30	83.53	89	15,994	-02	100.00	1	77	46,139	-07	97.25	1	2.38	75,762	.12	65.22	1
1.82	766,439	1.18	84.71	89	15,994	-02	100.00	1	79	188,924	-30	97.55	3	2.39	174,465	.27	65.49	3
1.83	240,188	37	85.08	89	15,994	-02	100.00	1	80	71,063	-11	97.66	3	2.40	17,227	.03	65.52	1
1.84	195,409	31	85.39	89	15,994	-02	100.00	1	81	84,936	-13	97.79	3	2.41	172,982	.27	65.79	3
1.85	716,364	1.10	86.49	89	15,994	-02	100.00	1	82	12,928	-02	97.81	1	2.42	129,715	.20	65.99	2
1.86	513,479	78	87.27	89	15,994	-02	100.00	1	83	64,963	-10	97.91	3	2.43	1,580,752	2.43	66.42	3
1.87	311,255	48	87.75	89	15,994	-02	100.00	1	86	32,055	-05	97.96	2	2.44	379,012	.59	69.01	6
1.88	177,492	27	88.02	89	15,994	-02	100.00	1	87	50,625	-08	98.04	2	2.45	96,969	.15	69.16	1
1.89	114,029	17	88.19	89	15,994	-02	100.00	1	88	15,963	-03	98.07	1	2.46	3,589,601	5.52	74.68	3
1.90	106,555	16	88.35	89	15,994	-02	100.00	1	89	124,135	-19	98.26	3	2.47	71,416	.11	74.79	3
1.91	144,370	22	88.57	89	15,994	-02	100.00	1	90	42,188	-07	98.33	2	2.48	913,154	1.40	76.19	9
1.92	81,213	12	88.69	89	15,994	-02	100.00	1	93	57,179	-09	98.42	1	2.49	387,986	.59	76.78	6
1.93	220,161	34	89.03	89	15,994	-02	100.00	1	94	20,476	-03	98.45	1	2.50	119,147	.18	76.96	2
1.94	741,687	1.14	90.17	89	15,994	-02	100.00	1	97	131,629	-20	98.55	3	2.51	455,092	.70	77.96	6
1.95	176,362	28	90.45	89	15,994	-02	100.00	1	99	22,362	-03	98.68	2	2.52	248,432	.38	78.04	2
1.96	20,858	03	90.48	89	15,994	-02	100.00	1	100	27,411	-04	98.72	1	2.53	459,764	.71	78.75	8
1.97	164,559	26	90.74	89	15,994	-02	100.00	1	101	119,611	-18	98.90	1	2.54	108,506	.17	78.92	2
1.98	311,997	47	91.21	89	15,994	-02	100.00	1	107	14,572	-02	98.92	1	2.55	388,371	.60	79.52	5
1.99	97,285	15	91.36	89	15,994	-02	100.00	1	108	113,267	-17	98.99	2	2.56	98,490	.15	79.67	2
2.00	167,999	26	91.62	89	15,994	-02	100.00	1	112	36,311	-06	99.15	1	2.57	39,884	.06	79.73	2
2.01	180,007	27	91.89	89	15,994	-02	100.00	1	114	37,757	-06	99.21	1	2.58	849,497	1.31	81.04	7
2.02	117,852	18	92.07	89	15,994	-02	100.00	1	115	142,428	-22	99.43	1	2.59	366,420	.56	81.90	3
2.03	19,617	03	92.10	89	15,994	-02	100.00	1	117	37,163	-06	99.49	1	2.60	118,756	.18	81.78	2
2.04	91,626	14	92.24	89	15,994	-02	100.00	1	123	81,407	-13	99.62	1	2.61	203,772	.32	82.10	4
2.05	384,816	59	92.83	89	15,994	-02	100.00	1	135	26,757	-04	99.66	1	2.62	116,929	.18	82.28	2
2.06	411,366	63	93.46	89	15,994	-02	100.00	1	158	88,906	-14	99.80	1	2.63	878,568	1.34	83.92	4
2.07	12,279	02	93.48	89	15,994	-02	100.00	1	160	5,413	-01	99.81	1	2.64	619,016	.19	83.92	4
2.08	37,867	08	93.53	89	15,994	-02	100.00	1	190	117,480	-18	99.89	1	2.65	181,078	1.01	83.93	4
2.09	137,866	22	93.75	89	15,994	-02	100.00	1	217	6,467	-01	100.00	1	2.66	188,492	.30	83.93	3
2.10	177,881	27	94.02	89	15,994	-02	100.00	1	217	6,467	-01	100.00	1	2.67	468,372	.71	86.89	3

TABLE 33.—“Claimed” labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

Labor cost.						Supply cost.						General expenses.						Total f. o. b. mine cost.					
Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.		Per ton cost by \$0.01 group-ing.	Production tonnage (net tons).	Per cent of total.	Accu-mu-lated per cent.	Num-ber of com-panies by \$0.01 group-ing.	
\$2.11	631,238	1.09	95.02	4														\$2.68	337,442	0.52	87.11	5	
2.12	28,674	.04	95.06	1														2.69	104,860	.10	87.27	2	
2.13	110,872	.18	95.24	1														2.71	345,739	.54	87.81	2	
2.14	344,843	.55	95.77	3														2.71	83,032	.13	87.94	2	
2.15	137,603	.21	95.98	4														2.72	110,839	.17	88.11	2	
2.17	38,689	.06	96.04	2														2.73	98,011	.14	88.25	2	
2.18	266,536	.55	96.60	2														2.74	527,122	.81	88.03	4	
2.19	48,924	.08	96.68	1														2.75	410,550	.63	88.69	3	
2.20	56,142	.09	96.77	1														2.76	232,773	.36	89.05	2	
2.21	113,395	.18	96.95	2														2.77	158,637	.24	90.29	3	
2.22	122,964	.19	97.14	3														2.78	232,701	.24	90.53	6	
2.23	270,838	.42	97.56	4														2.79	332,305	.51	91.14	1	
2.25	284,748	.44	98.00	2														2.80	444,583	.68	91.82	5	
2.26	111,798	.17	98.17	1														2.81	301,280	.47	92.29	6	
2.27	15,069	.03	98.20	1														2.82	87,834	.14	92.43	3	
2.28	100,628	.15	98.35	3														2.84	294,113	.31	92.74	4	
2.30	6,392	.01	98.36	1														2.86	191,679	.29	93.03	1	
2.31	13,771	.02	98.38	1														2.87	148,462	.23	93.26	3	
2.32	90,915	.13	98.51	4														2.88	601,694	.92	94.18	3	
2.33	123,785	.19	98.70	1														2.89	63,680	.10	94.28	3	
2.35	34,565	.05	98.75	1														2.90	65,957	.11	94.39	2	
2.36	11,267	.02	98.77	1														2.91	57,896	.09	94.46	3	
2.39	20,456	.03	98.80	1														2.92	10,668	.02	94.50	1	
2.40	37,513	.05	98.85	2														2.93	76,429	.12	94.62	2	
2.42	10,668	.02	98.87	1														2.94	15,340	.03	94.65	1	

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A comparison of the "Claimed" costs with the "Revised" is shown in graphic form on Diagram 4 (opposite). The changes brought about through the revision in the average costs for the year 1918 for the 425 operators, are as follows:

Items.	"Claimed" costs.	"Revised" costs.	Increase (I) or decrease (D) due to revision.
Production tonnage.....tons..	65, 113, 157	63, 962, 057	11, 151, 100(D)
Labor.....per ton..	\$1. 59	\$1. 62	\$0. 03(I)
Supplies.....do.....	\$0. 31	\$0. 27	\$0. 04(D)
General expense.....do.....	\$0. 37	\$0. 32	\$0. 05(D)
Total f. o. b. mine.....do.....	\$2. 27	\$2. 21	\$0. 06(D)

¹ Power-house fuel.

The increase of 3 cents in the average "Revised" labor cost over the "Claimed" is caused by the use of the "Revised" production tonnage as a divisor. The total "Claimed" labor cost was \$103, 376, 674, and the total "Revised" labor cost was \$103, 404, 381. The chief revision took place in the item of general expense, resulting in a decrease of 5 cents per ton.

The costs claimed by a number of operators in this field were obviously open to question as to their accuracy. Such operators were required by the Commission to furnish further detailed information in support of their "Claimed" costs. The examination of such detailed information revealed the fact that they had often included the expense of development work in the labor and supplies costs, and had included in their general expense costs such charges as interest on investment, excess profit taxes, etc.

There were no marked cases of revision downward of labor cost or supply cost.

In the item of general expense, the chief instances of revision affected 21 operators, and involved about one and three-quarters per cent of the total output for the year 1918 of the 425 operators. The "Claimed" costs were as follows:

General expense "Claimed."	Number of operators.	"Claimed" production.	Per cent of total output of 425 operators.
\$0. 75 to \$0. 99 per ton.....	9	349, 844	0. 53
1. 00 to 1. 24 per ton.....	8	567, 944	. 87
1. 25 to 1. 49 per ton.....	1	26, 757	. 02
1. 50 and over per ton.....	3	212, 253	. 32
Total.....	21	1, 156, 798	1. 74

The inflation included in some of the foregoing "Claimed" costs can best be appreciated when it is borne in mind that the average of the "Claimed" general expense costs for the year 1918 for the field was \$0.37 per ton, and that "Claimed" general expense costs

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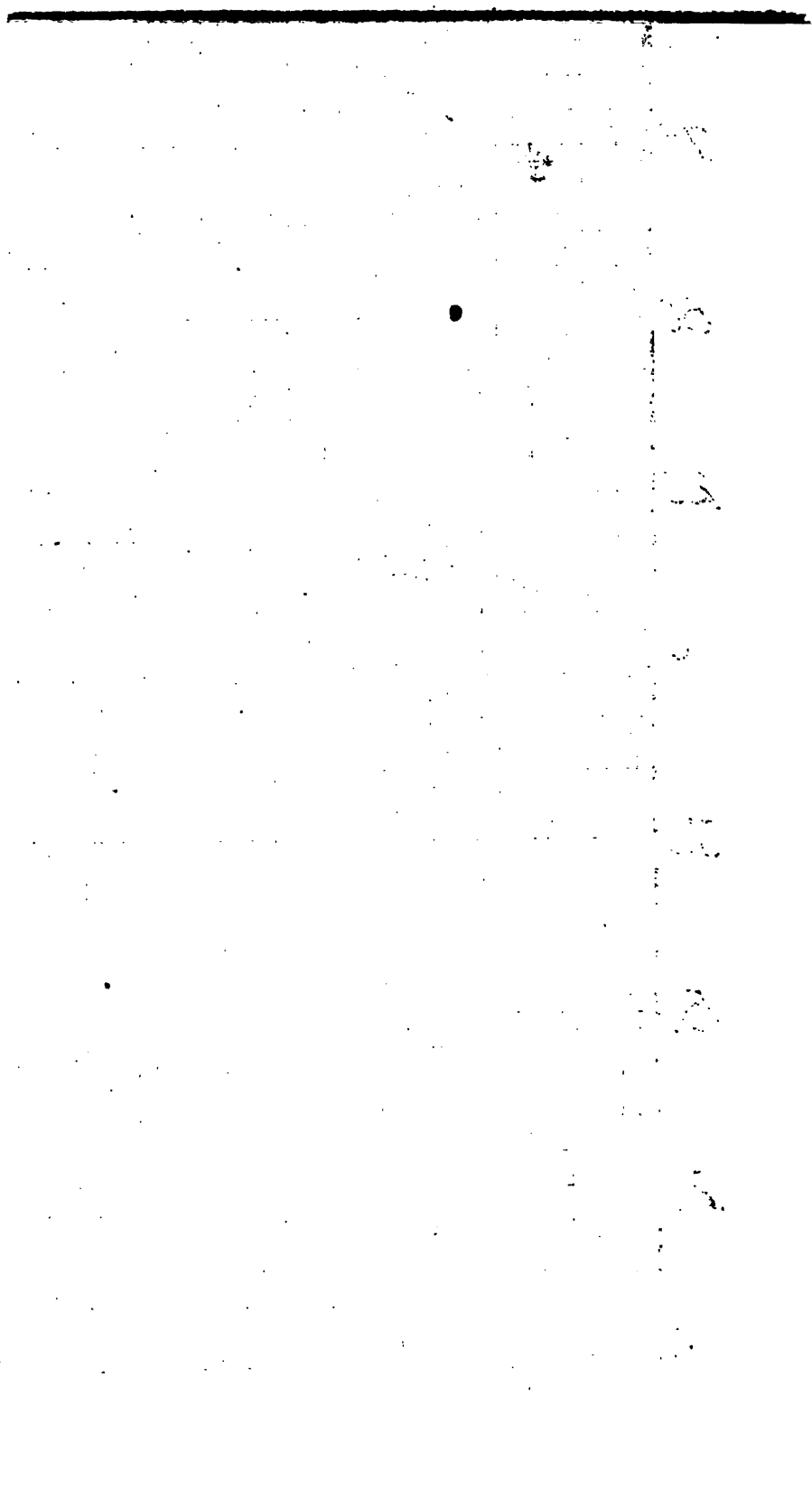
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for 90 per cent of the tonnage of the field were under \$0.61. Of the 21 operators in the tabulation shown for general expense, 8 produced over 50,000 tons each during 1918. The "Claimed" and "Revised" tonnages mined by each of the 8 operators, and their "Claimed" and "Revised" general expense costs and total "Claimed" and "Revised" f. o. b. mine costs, are shown in the following table.

TABLE 34.—Comparison of "Claimed" and "Revised" general expense and total f. o. b. mine costs of eight large producers.

Production, 1918.		General expense cost.		Total f. o. b. mine cost.	
"Claimed."	"Revised."	"Claimed."	"Revised."	"Claimed."	"Revised."
62,582	62,582	\$0.89	\$0.61	\$2.39	\$2.11
99,993	99,993	.97	.86	2.52	2.39
119,611	119,611	1.01	.64	3.22	2.85
92,255	89,384	1.08	.48	2.77	2.14
142,428	142,428	1.15	.21	2.70	1.76
81,407	81,407	1.23	.39	3.31	2.47
86,606	86,335	1.58	1.36	2.46	2.18
117,160	117,160	1.90	.84	3.74	3.02

It should be noted that the total f. o. b. mine "Claimed" costs of all these operators were far above the average total f. o. b. mine "Claimed" costs for the 425 operators, which was \$2.27 for the year 1918, and in four cases above the "Claimed" cost for 90 per cent of the tonnage, which was \$2.76.

6. 1918 costs shown by thickness of seam mined.—As has been pointed out, the bulk of the output (about 70 per cent) of the Central Field comes from 149 producers who operated more than one mine. Most of these producers did not report the costs of each mine separately. In order to include them in a tabulation to show costs by thickness of seam, it was necessary to use the average of the seams mined by them. This has led to the inclusion of data in the tabulation for the 425 operators, which to a slight extent vitiates its scientific value, since it is not known whether equal tonnage was derived from mines which had seams above or below the average thickness. The tabulation by thickness of seam for the 425 operators follows:

TABLE 35.—Seam tabulation of "Revised" cost for 425 operators.

Thickness of seam.	Number of operators.	Production, 1918.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>				
24 to 35 inches.....	55	3,579,103	\$1.78	\$0.27	\$0.37	\$2.42
36 to 47 inches.....	236	34,431,177	1.64	.29	.33	2.26
48 to 59 inches.....	99	17,187,020	1.60	.27	.30	2.17
60 to 71 inches.....	26	7,780,150	1.51	.25	.25	2.01
72 to 83 inches.....	7	868,693	1.35	.22	.26	1.83
84 to 95 inches.....	2	115,914	1.57	.16	.32	2.05
	425	63,962,057	1.62	.27	.32	2.21

NOTE.—Where two or more mines were operated by one producer the average thickness of seams was used.

In order to eliminate the effect of the inclusion of average thicknesses, where producers operated two or more mines, the following seam tabulation has been made of the 276 one-mine operators:

TABLE 36.—*Seam tabulation of "Revised" cost for 276 operators.*

Thickness of seam.	Number of operators.	Production, 1918.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>				
24 to 35 inches.....	40	1,598,342	\$1.89	\$0.23	\$0.37	\$2.49
36 to 47 inches.....	158	11,158,659	1.66	.27	.35	2.28
48 to 59 inches.....	56	4,675,295	1.56	.26	.35	2.17
60 to 71 inches.....	16	1,440,041	1.55	.23	.35	2.13
72 to 83 inches.....	5	738,357	1.30	.21	.24	1.75
84 to 95 inches.....	1	93,071	1.52	.15	.27	1.94
Total.....	276	19,703,765	1.63	.26	.35	2.24

It will be noted in the case of both tabulations that the labor cost decreases as the thickness of the seam increases until seams of 7 to 8 feet are reached—when it goes up again. That apparent exception to the general rule may be due to particular conditions, only two operators in one tabulation and one in the other, with a small tonnage were found to mine in that thickness of seam. The supply cost was found to be highest in seams 3 to 5 feet thick.

In this field, as a rule, the general expense decreased as the thickness of the seam increased. General expense is less affected by conditions of a physical nature, however, but is closely connected with the efficiency of the operations. The following comparison of the average costs of the 276 one-mine operators with those of the 149 operators of two or more mines is of interest:

TABLE 37.—*Comparison of average "Revised" costs, operators with one mine with operators of two or more mines.*

Number of operators.	Number of mines.	Output, 1918.			Costs per ton.			
		Total output.	Output per operator.	Output per mine.	Labor.	Supplies.	General expenses.	Total f. o. b. mine.
		<i>Tons.</i>	<i>Tons.</i>	<i>Tons.</i>				
276	276	19,703,765	71,390	71,390	\$1.63	\$0.26	\$0.35	\$2.24
149	513	44,258,292	297,035	86,273	1.61	.28	.30	2.19
425	789	63,962,057	150,499	81,067	1.62	.27	.32	2.21

It will be noted from the foregoing table that the item of general expense was 5 cents greater in the case of the one-mine operators than with operators of two or more mines.

III. Comparative Costs and Sales Realizations in 1916, 1917, and 1918.

The Commission has collected for the years 1916, 1917, and 1918 the costs and sales realizations of a number of operators in the Central Field. That part of the information which deals with the period prior to August, 1917, was filed by the operators on cost sheets, in the form prescribed by the Commission, in support of a petition to the Fuel Administration for a revision of the prices fixed for their field.

The information was reported for 1916 for the year as a whole. The information from January, 1917, to December, 1918, was reported on monthly cost sheets of the Commission. It has been found possible to present the costs of 33 operators throughout the entire period of the three years. The 33 operators mined 9,046,567 tons in 1916, 8,958,147 tons in 1917, and 9,007,989 tons in 1918 (exclusive of power-house fuel).

1. *Representativeness of statistics presented.*—In order that the costs and sales realizations of these 33 operators should be accepted as typical of the field, they must be shown to be of a fairly representative character. Considered from the standpoint of tonnage produced, it may be stated that the 33 operators mined 13 per cent of the tonnage reported by the United States Geological Survey as being mined in 1916 in the 22 counties which practically comprise the Central Field, and that they mined in 1918 14 per cent of the tonnage included in the Commission's tabulation of operators in this field who furnished reports for the whole 12 months of 1918. It is, therefore, evident that the 33 operators mined a fairly substantial part of the total tonnage of the field.

The representativeness of the sales realization in 1916 of the 33 operators may be judged by comparison with the "average value per ton" figures derived from the United States Geological Survey. For the 22 counties which practically comprise the Central Field the "average value per ton" in 1916 on the 65,263,180 tons which were "loaded at the mines for shipment" and "sold to local trade and used by employees" was \$1.34 per ton. This is 6 cents lower than the "sales realization" for the 33 operators, who sold 9,829,816 tons in 1916 at an average of \$1.40 per ton. The representativeness of the costs and sales realization in 1918 of the 33 operators is shown by the

following comparisons between their average figures and those of the 425 operators who produced 63,962,057 tons in 1918:

TABLE 38.—Comparison of average "Revised" costs and sales realization for 1918 of 425 operators with 33 operators.

[Per ton.]

Item.	January-March.		April-June.		July-September.		October-December.		Year.	
	425 operators.	33 operators.	425 operators.	33 operators.	425 operators.	33 operators.	425 operators.	33 operators.	425 operators.	33 operators.
Labor.....	\$1.58	\$1.70	\$1.57	\$1.68	\$1.61	\$1.71	\$1.71	\$1.80	\$1.62	\$1.72
Supplies.....	.23	.26	.25	.29	.28	.28	.35	.37	.27	.30
General expenses.....	.30	.35	.30	.34	.30	.32	.37	.38	.32	.35
Total f. o. b. mine.....	2.11	2.31	2.12	2.31	2.19	2.31	2.43	2.55	2.21	2.37
Sales realization.....	3.04	3.28	3.11	3.22	3.02	3.10	3.03	3.02	3.05	3.15

While both the average costs and sales realization of the 33 operators were somewhat higher than the average for the field, the difference is not enough to seriously affect their use for comparison of changes in conditions that have taken place in the field during the period 1916-1918.

That the distribution of the tonnage of the 33 operators with regard to high and low f. o. b. mine costs in 1918 is representative, is evident from the following comparison between the 425 operators shown for the field and the 33 operators:

TABLE 39.—Comparative distribution of total "Revised" f. o. b. mine costs for 1918 of 425 operators and 33 operators.

Cost group (per ton).	425 operators.		33 operators.	
	Percent of total in each group.	Accumulated percentage.	Percent of total in each group.	Accumulated percentage.
Under \$1.60.....	0.49	0.49	.....	.....
\$1.60 to \$1.69.....	1.92	2.41	.....	.....
\$1.70 to \$1.79.....	5.93	8.34	1.60	1.60
\$1.80 to \$1.89.....	11.09	19.43	.....	.....
\$1.90 to \$1.99.....	9.90	29.33	2.10	3.70
\$2.00 to \$2.09.....	10.81	40.14	8.90	12.60
\$2.10 to \$2.19.....	12.68	52.82	3.50	16.10
\$2.20 to \$2.29.....	12.95	65.77	10.90	27.00
\$2.30 to \$2.39.....	10.16	75.93	50.70	77.70
\$2.40 to \$2.49.....	6.55	82.48	2.80	80.50
\$2.50 to \$2.59.....	3.63	86.11	5.10	85.60
\$2.60 to \$2.69.....	3.58	89.69	5.00	90.60
\$2.70 to \$2.79.....	3.86	93.55	1.40	92.00
\$2.80 to \$2.89.....	2.19	95.74	2.00	94.00
\$2.90 to \$2.99.....	1.10	96.84	.30	94.30
\$3.00 to \$3.09.....	.81	97.65	.....	.....
\$3.10 to \$3.19.....	1.13	98.78	5.70	100.00
\$3.20 to \$3.29.....	.68	99.46	.....	.....
\$3.30 and over.....	.54	100.00	.....	.....
	100.00	100.00	100.00	100.00

It will be noted from the foregoing figures that between \$1.70 and \$2.69 lie the costs of about 90 per cent of the tonnage of the 33 operators, and of about 87 per cent of the tonnage of the 425 operators. In each case about 10 per cent of the tonnage had a cost of \$2.70 per ton or over. The cost of 17 per cent of the tonnage of the 425 operators was between \$1.70 and \$1.89, while about 1½ per cent of the tonnage of the 33 operators lay within that range.

Except for the higher relative cost of the 33 operators, which has already been pointed out, the distribution of their costs from high to low is representative of the field at large.

2. *The "Revised" costs and sales realization.*—The "Revised" costs and the sales realization of these 33 operators combined are shown for different periods in Table 40. The difference between the "Revised" and "Claimed" costs is so immaterial that only "Revised" costs are shown. In the upper division of the table the costs and sales realizations for the year 1916, and for the 24 months of 1917 and 1918, are shown. In the second division these costs and sales realizations are shown for six periods, of varying length, which correspond to the duration of certain conditions which had great influence on the costs and the sales realizations. In the third division of the table are shown the figures for each of the three calendar years. The principal facts in Table 40 are shown in graphic form in Charts 10, 11, and 12 (facing p. 90).

Since the statistics shown in Table 40 and on Charts 11 and 12 are averages based on the combined figures of the 33 operators, the following analysis of the total f. o. b. mine costs, the sales realizations, and the margins, showing the distribution of the tonnage produced, with reference to such items is of interest:

During 1916 the total f. o. b. mine costs for about 96 per cent of the total output of the 33 operators were between \$1 and \$1.50 per ton; during 1917, for about 35 per cent of the output, they were between \$1.40 and \$1.80, and for about 47 per cent they were between \$2 and \$2.30; and during 1918, for about 90 per cent of the output, they were between \$1.90 and \$2.70. The detailed distribution for 1918 appears in Table 39.

During 1916 the sales realizations for about 90 per cent of the total output of the 33 operators were between \$1.20 and \$1.60 per ton; during 1917, for about 59 per cent of the output, they were between \$2.40 and \$2.90, and for about 33 per cent they were between \$2.90 and \$3.40; during 1918, for about 83 per cent of the output, they were between \$2.90 and \$3.30, and for about 13 per cent they were between \$3.40 and \$3.50.

During 1916 the margins—i. e., the differences between sales realization and the total f. o. b. mine costs—showed that on about 40 per cent of the total output of the 33 operators the sales realiza-

TABLE 33.—"Claimed" labor, supplies, general expenses, and total f. o. b. mine cost for the year 1918 for 425 operators producing bituminous coal in the Central Field of the State of Pennsylvania—Continued.

Labor cost.					Supply cost.					General expenses.					Total f. o. b. mine cost.				
Per ton cost by group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group- ing.	Per ton cost by group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group- ing.	Per ton cost by group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group- ing.	Per ton cost by group- ing.	Production tonnage (net tons).	Per cent of total.	Accumulated per cent.	Num-ber of com-panies by group- ing.
\$2.11	651,235	1.00	95.02	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	\$2.68	337,442	0.52	87.11	5
2.12	123,674	.04	95.06	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.69	104,630	.16	87.27	2
2.13	110,872	.13	95.24	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.70	345,739	.54	87.81	2
2.14	324,363	.53	95.77	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.71	83,082	.13	87.94	2
2.15	137,608	.21	95.95	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.72	110,889	.17	88.11	2
2.17	38,689	.05	96.04	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.73	88,011	.14	88.25	2
2.18	369,536	.55	96.60	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.74	527,122	.81	89.06	4
2.19	48,924	.08	96.68	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.75	410,550	.63	89.69	3
2.20	58,142	.09	96.77	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.76	232,773	.36	90.05	3
2.21	116,365	.15	96.95	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.77	158,637	.24	90.29	3
2.22	122,964	.19	97.14	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.78	232,701	.34	90.63	6
2.23	270,838	.42	97.56	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.79	332,305	.51	91.14	1
2.25	284,748	.44	98.00	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.80	444,583	.68	91.82	5
2.26	111,798	.17	98.17	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.81	301,280	.47	92.29	6
2.27	18,069	.03	98.20	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.82	87,884	.14	92.43	3
2.28	100,628	.15	98.35	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.84	204,113	.31	92.74	4
2.30	6,392	.01	98.36	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.86	191,679	.29	93.03	1
2.31	13,771	.02	98.38	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.87	146,452	.23	93.26	3
2.32	90,915	.13	98.51	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.88	601,684	.92	94.18	3
2.33	123,785	.19	98.70	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.89	63,680	.10	94.28	3
2.35	34,565	.05	98.75	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.90	65,957	.11	94.39	2
2.36	11,267	.02	98.77	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.91	57,866	.09	94.48	3
2.39	20,456	.03	98.80	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.92	10,668	.02	94.50	1
2.40	37,513	.05	98.85	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.93	76,429	.12	94.62	2
2.42	10,668	.02	98.87	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2.94	15,340	.03	94.65	1

[illegible]

A comparison of the "Claimed" costs with the "Revised" is shown in graphic form on Diagram 4 (opposite). The changes brought about through the revision in the average costs for the year 1918 for the 425 operators, are as follows:

Items.	"Claimed" costs.	"Revised" costs.	Increase (I) or decrease (D) due to revision.
Production tonnage.....tons..	65,113,157	63,962,057	1,151,100(D)
Labor.....per ton..	\$1.59	\$1.62	\$0.03(I)
Supplies.....do.....	\$0.31	\$0.27	\$0.04(D)
General expense.....do.....	\$0.37	\$0.32	\$0.05(D)
Total f. o. b. mine.....do.....	\$2.27	\$2.21	\$0.06(D)

¹ Power-house fuel.

The increase of 3 cents in the average "Revised" labor cost over the "Claimed" is caused by the use of the "Revised" production tonnage as a divisor. The total "Claimed" labor cost was \$103,376,674, and the total "Revised" labor cost was \$103,404,381. The chief revision took place in the item of general expense, resulting in a decrease of 5 cents per ton.

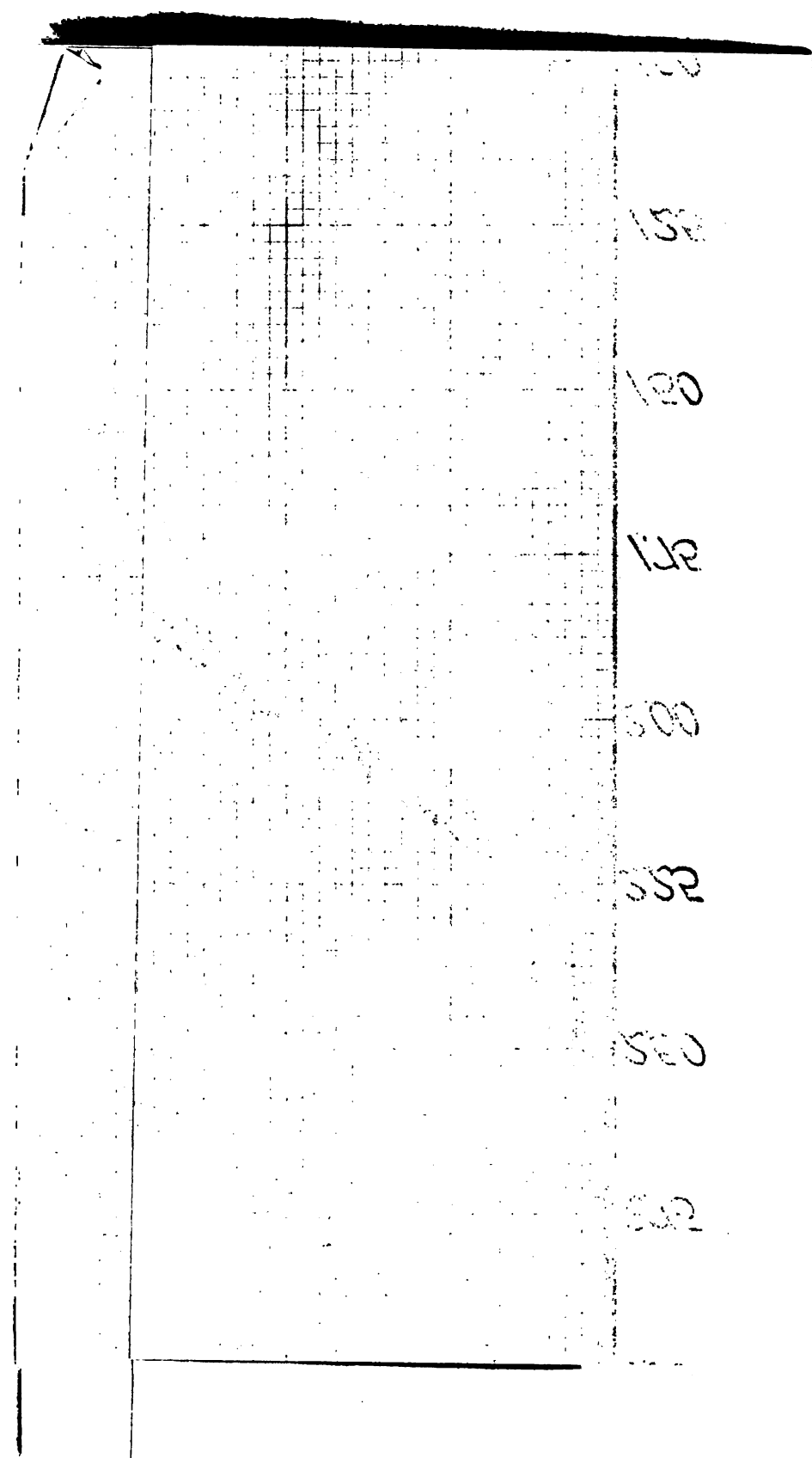
The costs claimed by a number of operators in this field were obviously open to question as to their accuracy. Such operators were required by the Commission to furnish further detailed information in support of their "Claimed" costs. The examination of such detailed information revealed the fact that they had often included the expense of development work in the labor and supplies costs, and had included in their general expense costs such charges as interest on investment, excess profit taxes, etc.

There were no marked cases of revision downward of labor cost or supply cost.

In the item of general expense, the chief instances of revision affected 21 operators, and involved about one and three-quarters per cent of the total output for the year 1918 of the 425 operators. The "Claimed" costs were as follows:

General expense "Claimed."	Number of operators.	"Claimed" production.	Per cent of total output of 425 operators.
\$0.75 to \$0.99 per ton.....	9	349,844	0.53
1.00 to 1.24 per ton.....	8	567,944	.87
1.25 to 1.49 per ton.....	1	26,757	.02
1.50 and over per ton.....	3	212,253	.32
Total.....	21	1,156,798	1.74

The inflation included in some of the foregoing "Claimed" costs can best be appreciated when it is borne in mind that the average of the "Claimed" general expense costs for the year 1918 for the field was \$0.37 per ton, and that "Claimed" general expense costs



production caused by transportation and weather difficulties, especially during December, January, and February, when production was far below the monthly average. (See Chart 9). The sales realization, which increased to \$3.27 in November, again fell in December and January. On February 16, 1918, the Fuel Administration increased the maximum prices then allowed the Central Field about 60 cents per ton, establishing a new maximum price for all sizes of uncontracted coal of \$3.05 per ton (including in this figure the November 45-cent increase made because of the wage advance). This increase apparently checked the fall in sales realization, for the February sales realization went up 10 cents, to \$3.27, and for March it was \$3.39 per ton, the highest monthly sales realization during the whole two years. The advance in March over February was probably caused by the shipping out of coal to complete deliveries on the high-priced contracts which were entered into prior to August 21, 1917, and which expired March 31, 1918. On March 31, 1918, there expired most of the high-priced contracts entered into before the fixing of Government prices on coal and the organization of the Fuel Administration. There followed a drop of 12 cents in the sales realization, since prices of all new contracts, as well as of the uncontracted coal (comprising practically the entire output), then came under the control of the Fuel Administration. In April the sales realization dropped to \$3.27 (the same as February). It then continued to fall, dropping to \$3.23 in May. On May 25, 1918, the Fuel Administration reduced the maximum price allowed for this field 10 cents per ton (making it \$2.95 per ton for all sizes). The June sales realization was \$3.15, 8 cents lower than May. The decline in sales realization continued each month through October, when it reached \$2.99. It then rose to \$3.07 in November and dropped back to \$3.01 in December. The average sales realization for the nine months' period ending December, 1918, was \$3.11 (16 cents lower than that for the preceding period of November, 1917-March, 1918). The average total f. o. b. mine cost was \$2.38 (4 cents higher). It should be noted that the curtailment of production in November and December, 1918, following the armistice caused the total f. o. b. mine cost for those months to go up sharply. (See Chart 8.)

The effect on coal prices of governmental regulation is best shown by a comparison of the margins of the period April 1 to August 31, 1917 (the five months following the expiration of the 1916 contracts and immediately preceding governmental price fixing), when the average margin was \$1.10 per ton, with the period from April 1 to December 31, 1918 (the nine months following the expiration of the contracts made prior to August 21, 1917), when the margin was \$0.73 per ton. While the margins for the periods September-

for 90 per cent of the tonnage of the field were under \$0.61. Of the 21 operators in the tabulation shown for general expense, 8 produced over 50,000 tons each during 1918. The "Claimed" and "Revised" tonnages mined by each of the 8 operators, and their "Claimed" and "Revised" general expense costs and total "Claimed" and "Revised" f. o. b. mine costs, are shown in the following table.

TABLE 34.—Comparison of "Claimed" and "Revised" general expense and total f. o. b. mine costs of eight large producers.

Production, 1918.		General expense cost.		Total f. o. b. mine cost.	
"Claimed."	"Revised."	"Claimed."	"Revised."	"Claimed."	"Revised."
62,582	62,582	\$0.89	\$0.61	\$2.39	\$2.11
99,993	99,993	.97	.86	2.52	2.39
119,611	119,611	1.01	.64	3.22	2.85
92,255	89,384	1.08	.48	2.77	2.14
142,428	142,428	1.15	.21	2.70	1.76
81,407	81,407	1.23	.39	3.31	2.47
86,606	86,335	1.58	1.36	2.46	2.18
117,160	117,160	1.90	.84	3.74	3.02

It should be noted that the total f. o. b. mine "Claimed" costs of all these operators were far above the average total f. o. b. mine "Claimed" costs for the 425 operators, which was \$2.27 for the year 1918, and in four cases above the "Claimed" cost for 90 per cent of the tonnage, which was \$2.76.

6. 1918 costs shown by thickness of seam mined.—As has been pointed out, the bulk of the output (about 70 per cent) of the Central Field comes from 149 producers who operated more than one mine. Most of these producers did not report the costs of each mine separately. In order to include them in a tabulation to show costs by thickness of seam, it was necessary to use the average of the seams mined by them. This has led to the inclusion of data in the tabulation for the 425 operators, which to a slight extent vitiates its scientific value, since it is not known whether equal tonnage was derived from mines which had seams above or below the average thickness. The tabulation by thickness of seam for the 425 operators follows:

TABLE 35.—Seam tabulation of "Revised" cost for 425 operators.

Thickness of seam.	Number of operators.	Production, 1918.	Labor.	Supplies.	General expense.	Total f. o. b. mine.
		<i>Tons.</i>				
24 to 35 inches.....	55	3,579,103	\$1.78	\$0.27	\$0.37	\$2.42
36 to 47 inches.....	236	34,431,177	1.64	.29	.33	2.26
48 to 59 inches.....	99	17,187,020	1.60	.27	.30	2.17
60 to 71 inches.....	26	7,780,150	1.51	.25	.25	2.01
72 to 83 inches.....	7	868,693	1.35	.22	.26	1.83
84 to 95 inches.....	2	115,914	1.57	.16	.32	2.05
	425	63,962,057	1.62	.27	.32	2.21

NOTE.—Where two or more mines were operated by one producer the average thickness of seams was used.

than *actually* obtained by them during the first quarter of 1917 (\$2.26), and about \$1.10 below that *actually* obtained by them in July, 1917 (\$3.11).

It is desirable to go somewhat into detail in the discussion of the sales realizations and margins actually received by the operators and the practical effect of the governmental price regulation in the Central Field. On August 21, 1917, the President fixed the maximum prices for all uncontracted coal produced in the State of Pennsylvania at \$2 per ton for run of mine, \$2.25 for prepared sizes, and \$1.75 for slack. The primary reason why the maximum prices for uncontracted coal for the Central Field were officially set August 21, 1917, at the same figures as those for the Southwest Field was that the latest information available indicated a general parity of cost conditions; there was no definite information at that time concerning the abnormal increase in the cost of production in the Central Field during the first eight months of 1917. This increase was much more rapid in the Central Field than that in some of the neighboring fields, such as the Southwest Field. The increase occurred chiefly in the labor cost. While there was an increase in the labor cost in all these fields, that in the Central Field was relatively much greater. Probably this was due to the extensive practice during that period on the part of many operators in the Central Field of paying their employees extra wages (sometimes known as "bonus") above the union scale which had been established in April, 1917, for that field by agreement between District No. 2, United Mine Workers of America, and the Association of Bituminous Operators of Central Pennsylvania. The following comparison between the relative increases in labor cost and in total f. o. b. mine cost over the average costs in 1916 of the 33 operators in the Central and of the 17 operators in the Southwest Field is of interest:

1917.	Labor cost, per cent of increase over 1916 average cost.		Total f. o. b. mine cost, per cent of increase over 1916 average cost.	
	Southwest Field.	Central Field.	Southwest Field.	Central Field.
January.....	6	12	11	23
February.....	9	24	17	25
March.....	7	19	11	21
April.....	18	27	20	32
May.....	24	44	24	49
June.....	24	42	23	44
July.....	28	44	29	48
August.....	28	47	28	54

The Central Field had an average labor cost which was 10 cents higher than that of the Southwest Field during 1916 and about 28 cents higher during the first eight months of 1917. Its average total

f. o. b. mine cost was 13 cents higher than that of the Southwest Field in 1916 and about 40 cents higher during the first eight months of 1917. While considerable reliable information, covering cost of production in the Central Field as well as in most of the other fields, was available at the time of the price fixing, the information covering the Central Field was not extensive enough nor recent enough to reveal the great increase that had been taking place in 1917 in the costs of the Central Field, particularly during the period May–August, 1917. It may be pointed out that possibilities of this kind were foreseen and provided for in the Executive order of August 21, 1917, which specifically states, concerning the scale of prices then established: "It is provisional only. It is subject to reconsideration when the whole method of administering the fuel supplies of the country shall have been satisfactorily organized and put into operation."

A second reason for considering the State as a whole in the fixing on August 21, 1917, of the uniform maximum prices was the close agreement which had existed for several years in the "average values per ton" of the two fields, published by the United States Geological Survey. The following statement shows a comparison of the average values compiled from that source for the years 1911–1915:

	Average values per ton.	
	Southwest Field.	Central Field.
1911.....	\$1.01	\$1.01
1912.....	1.04	1.07
1913.....	1.13	1.08
1914.....	1.06	1.08
1915.....	1.03	1.10

The figures for 1916 were not then available. They show \$1.28 for the Southwest Field and \$1.33 for the Central. The foregoing figures show that the "average values" for the two fields had corresponded fairly closely for a number of years.

As a matter of fact there was actually no decrease in the production in this field attributable to the fixing of the price on its uncontracted coal. This was due to the fact (already known at the time of the price fixing) that a very large proportion of the potential output (estimated to have been then about 90 per cent) was already under contract at prices much higher than the official maximum established for uncontracted coal, and also to the fact that the difficulty of getting adequate transportation was so great in that region that not all of the potential output already under contract could be shipped out. The proof of the first statement lies in the fact that the *actual* sales realization of the 33 operators during September and October, when

the August 21, 1917, prices were in effect, were \$3.03 and \$2.99, respectively, instead of \$2.01, which their output would have realized if all of it had been sold at the established prices. The proof of the second statement lies in the cost and tonnage reports of 463 operators to the Commission. These show that had it been possible for the mines in the Central Field to have been worked during the five months of August to December, 1917, ordinary full working time with their then existing force, their actual production would have been increased 21 per cent.

The distribution of the total f. o. b. mine costs for 463 operators, who produced 15,987,665 tons from 881 mines during the three months of August, September, and October, 1917, is shown in Table 41. The costs for September and October were slightly higher than those for August.

TABLE 41.—Total f. o. b. mine costs of 463 operators in the Central Field during August–October, 1917.

Total f. o. b. mine cost per ton by \$0.10 grouping.	Number of companies.	Accumulated per cent.	Total f. o. b. mine cost per ton by \$0.10 grouping.	Number of companies.	Accumulated per cent.
Under \$1.....	1	.....	\$2.40 to \$2.49.....	16	97.6
\$1 to \$1.09.....	.....	.....	\$2.50 to \$2.59.....	16	98.4
\$1.10 to \$1.19.....	2	0.8	\$2.60 to \$2.69.....	8	98.7
\$1.20 to \$1.29.....	10	3.9	\$2.70 to \$2.79.....	6	98.8
\$1.30 to \$1.39.....	12	13.7	\$2.80 to \$2.89.....	7	99.1
\$1.40 to \$1.49.....	27	23.4	\$2.90 to \$2.99.....	7	99.3
\$1.50 to \$1.59.....	28	34.1	\$3 to \$3.09.....	7	99.85
\$1.60 to \$1.69.....	35	42.5	\$3.10 to \$3.19.....	2	99.88
\$1.70 to \$1.79.....	49	61.8	\$3.20 to \$3.29.....	1	99.90
\$1.80 to \$1.89.....	49	73.2	\$3.30 to \$3.39.....	1	99.93
\$1.90 to \$1.99.....	35	77.4	\$3.40 to \$3.49.....	1	99.95
\$2 to \$2.09.....	35	85.0	\$3.50 to \$3.59.....	2	99.97
\$2.10 to \$2.19.....	43	89.7	\$4 to \$4.09.....	1	99.97
\$2.20 to \$2.29.....	28	92.0	\$4.40 to \$4.49.....	1	99.98
\$2.30 to \$2.39.....	32	96.0	\$4.70 to \$4.79.....	1	100.00

It will be noted from the foregoing table that had the operators sold their entire output at the prices fixed by the President on August 21, 1917, that about 73 per cent of the output would have realized a greater margin than the average margin (8 cents) obtained in 1916 by the 33 representative operators. The 463 operators received an *actual* sales realization, however, during August–October, 1917, averaging \$2.75 per ton, which left them an average margin of \$0.99 per ton over their average f. o. b. mine cost of \$1.76 per ton.

The practical effect of the fixing of the August 21, 1917, prices for the Central Field was to stimulate many operators to apply an increasing proportion of their output to the fulfillment of their contracts. It became unprofitable for them to sell much of their output on the "spot" market where previously the highest prices had been obtainable. As a result, also, many consumers who had been forced into the "spot" market because of the shortage in the deliveries from the mines of the coal they had already contracted for, withdrew from the

market. This checked the frantic bidding of buyers against each other for "free" coal coming on the market.

During September (the month following price fixing) the production of the 33 representative operators was 7 per cent below the monthly average. The sales realization during September was \$3.03 and the margin \$1. In October the production again rose to 5 per cent above the average. The sales realization dropped to \$2.99 and the margin to \$0.96. Effective October 29, 1917, an Executive order permitted operators to add 45 cents per ton to the August 21 prices to compensate them for an increase in the wage scale which went into effect November 1. This order did not apply to coal sold under contract. The sales realization rose for November to \$3.27, though the margin dropped to 92 cents. This decrease of margin was due to the heavy increase in costs consequent on a falling off of production (to 2 per cent below the average) due to weather and transportation conditions, and an increased labor cost.

The same explanation holds true for the much lower margins of December, 1917 (75 cents), when production was 19 per cent below the average, and of January, 1918 (84 cents), when production was 10 per cent below the average for 1918. The sales realization was falling (\$3.21 in December, \$3.17 in January), but the chief reason for the relatively lower margin was due to the increase in the costs. The production in February was 11 per cent below the monthly average for 1918. On February 16, 1918, the Fuel Administration increased the prices on uncontracted coal 60 cents a ton, making the maximum price for all sizes of uncontracted coal \$3.05 per ton. The sales realization in February was \$3.27 per ton (10 cents above January) and the margin was 96 cents per ton (12 cents higher), the total f. o. b. mine cost having decreased 2 cents. The production in March was 2 per cent below the monthly average, while the sales realization was \$3.39 per ton and the margin \$1.10. While the sales realization was the highest during the two years, the margin had already been surpassed in June, 1917 (\$1.24), and July, 1917 (\$1.15). As already mentioned (see p. 92), a part of the increase in sales realization was probably caused by the shipping out of coal to complete delivery on the high-priced contracts which expired March 31, 1918.

The effect of the expiration of these contracts is evident from the sales realization for April (\$3.27). All contracts made subsequent to August 21, 1917, were required to conform to the price regulations of the Fuel Administration. The sales realization began to drop to the official maximum price of \$3.05 per ton. Thus, it was \$3.27 in April, and \$3.23 in May. The decline in sales realization was accelerated by the effect of the new prices fixed on May 25 by the Fuel Administration, which reduced by 10 cents per ton the maximum prices on all uncontracted coal, and on all coal sold on contracts made subsequent to August 21, 1917. This established an official

maximum price for the Central Field, of \$2.95 per ton, for all sizes. The June sales realization was \$3.15, the July \$3.12, the August \$3.11, the September \$3.05, and the October \$2.99. During these five months the production varied from 7 to 15 per cent above the monthly average for 1918. In August it reached 875,150 tons, the highest monthly production in the two years.

The seven months, April–October, 1918, were, on the whole, a period of generally declining margins from 95 cents in April, to 59 cents in October. The production, notwithstanding the decrease in margins, was slightly above the 1918 monthly average, and reached a maximum of 875,150 tons in August, 1918. During that month the total f. o. b. mine cost was \$2.28 per ton, sales realization \$3.11, and margin 83 cents. In June, 1917, when the production was 804,900 tons, the total f. o. b. mine cost was \$1.91 per ton, the sales realization \$3.15, and the margin \$1.24.

The production fell off in November, 1918, in consequence of the signing of the armistice. In that month, but 629,424 tons (17 per cent below the average) were mined by the 33 operators. As a result of the low production, the total f. o. b. mine cost in November went up 24 cents over October. The margin dropped to 43 cents. A similar explanation applies to the relatively high cost in December, when the margin was 34 cents.

It will be evident from the foregoing analysis of the 24 months' period, eight months of which were prior to and 16 subsequent to Governmental price regulation, that the prices fixed for the Central Field on August 21, 1917, were such that if it had been necessary that the entire output should have been sold at such prices, a considerable curtailment of production of coal, for which transportation was then available, would have inevitably resulted. The highest possible realizations, had the entire output been sold at those prices, would have brought the operator about 2 cents per ton less than his total f. o. b. mine cost. The existence of contracts made before August 21, 1917, at much higher prices covering most of the output, resulted, however, in the operators *actually* receiving a sales realization which was about \$1.00 over their total f. o. b. mine cost. On November 1 the President authorized the adding of 45 cents per ton to the prices of uncontracted coal, to meet an increase of wages paid miners. Had the entire output been obliged to be sold at the new maximum prices thus established, the highest possible sales realization would have been \$2.45 per ton. This would have given the operators the following monthly margins over their costs. November, 10 cents per ton; January, 12 cents per ton; and February, 14 cents per ton. In December, the total f. o. b. mine cost would have exceeded the possible sales realization 1 cent per ton. The operators *actually* received during these months the following margins: November, 92 cents per ton; December, 75 cents; January, 84 cents; and February,

96 cents. When it is borne in mind that the average margin actually received by these *identical* 33 operators for the year 1916 was 8 cents per ton, it is obvious that they were not *actually*, during September 1917–February 1918, under the necessity of curtailing their output because of inadequate fixed prices. On February 16, 1918, the Fuel Administration increased the maximum prices then allowed the field 60 cents. Had the total output been sold at the maximum possible price the operators would have received margins of 76 cents in March, 73 cents in April, and 70 cents in May. They *actually* received margins of \$1.10 in March, 95 cents in April, and 88 cents in May. On May 25, the Fuel Administration reduced the maximum price 10 cents per ton. Had the total output been sold at the maximum possible price, the operators would have received margins of 68 cents per ton in June, 65 cents in July, 66 cents in August, 59 cents in September, 55 cents in October, 31 cents in November, and 28 cents in December. They *actually* received margins which ranged from 4 to 20 cents higher, averaging, for the seven months about 14 cents higher.

In connection with the study of the effect of margins on production, it is to be noted that the production between April–October, 1917 (5,299,043 tons), when the margins ranged from \$0.95 to \$1.24 per ton, was slightly exceeded by the production between April–October, 1918 (5,673,045 tons), when the margins ranged from \$0.59 to \$0.95 per ton.

As was pointed out in the case of the Southwest Field (see p. 48), the chief reason why the large margins obtained by the operators during April–October, 1917, induced the production of no more coal than the much lower margins for the corresponding period during April–October, 1918, is to be found in the condition of transportation facilities in 1917.

The output does not appear to have been limited materially through a shortage of labor. Had it been possible for the existing force of labor to have worked full time, much more coal (about 20 per cent more), could it have been transported, would have been mined.

It is evident from the foregoing facts that the extraordinarily high prices (and margins) during April–October, 1917, could not increase the output beyond the definite limit placed on production by insufficient transportation facilities. During the period April–October, 1918, when better transportation facilities were available, much smaller prices (and margins) were sufficient to call forth the desired output.

5. *Changes in the relation of the cost subdivisions to the total f. o. b. mine costs.*—The following table based on “revised” costs shows the distribution, for varying periods, between the items of labor, supplies, and general expense of each dollar in the total f. o. b. mine cost:

TABLE 42.—*Distribution between labor, supplies, and general expense of each dollar of total f. o. b. mine cost, 1916-1918, by varying periods, and by calendar years.*

Period.	Labor.	Supplies.	General expense.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
January-March, 1917.....	69	9	22
April-August, 1917.....	68	14	18
September-October, 1917.....	68	13	19
November, 1917-March, 1918.....	73	11	16
April-December, 1918.....	73	13	14
Year, 1916.....	70	7	23
Year, 1917.....	69	13	18
Year, 1918.....	72	13	15

The foregoing table shows that there has been little change during the three years in the relative proportions which the labor cost forms of the total f. o. b. mine cost, that the proportion which supplies forms has increased and the proportion which general expense forms has decreased.

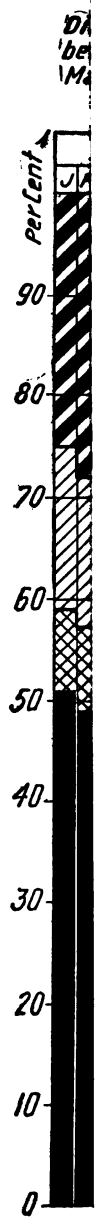
6. *Changes in the relation of the costs to the sales realization.*—The following table shows the distribution, from time to time, between the items of labor, supplies, general expense, and margin to operator, of each dollar paid by the purchaser for coal to the operator:

TABLE 43.—*Distribution of the amount paid by the purchaser between the various principal costs and the margins, based on each dollar of sales realization, 1917-18, by months.*

Month.	Labor.	Supplies.	General expense.	Total f. o. b. mine.	Margin.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
1917.					
January.....	51	8	16	75	25
February.....	49	7	16	72	28
March.....	48	7	15	70	30
April.....	44	7	14	65	35
May.....	43	9	12	64	36
June.....	42	8	11	61	39
July.....	43	9	11	63	37
August.....	44	10	12	66	34
September.....	45	9	13	67	33
October.....	46	9	13	68	32
November.....	52	9	11	72	28
December.....	54	9	14	77	23
1918.					
January.....	55	8	11	74	26
February.....	52	8	11	71	29
March.....	49	8	10	67	33
April.....	51	9	11	71	29
May.....	52	10	11	73	27
June.....	53	8	11	72	28
July.....	54	9	11	74	26
August.....	54	9	10	73	27
September.....	57	10	11	78	22
October.....	58	11	11	80	20
November.....	60	13	13	86	14
December.....	62	13	14	89	11

These facts are shown in graphic form in Chart 13 (opposite).

A similar table has been compiled for the periods used in the second division of Table 40.



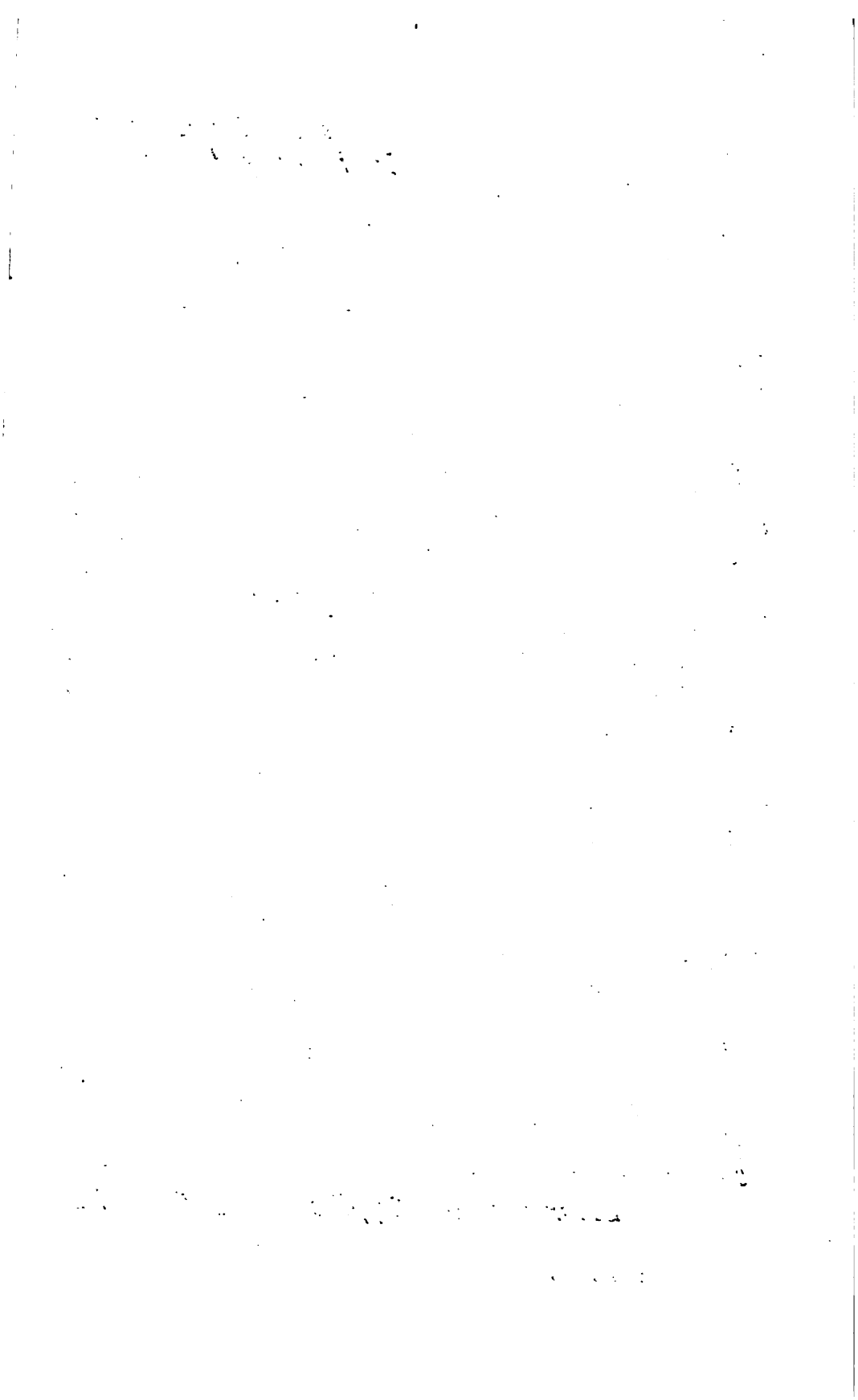


TABLE 44.—*Distribution of the amount paid by the purchaser between the various principal costs and the margin, based on each dollar of sales realization, 1916-1918, by varying periods and by calendar years.*

Period.	Labor.	Supplies.	General expense.	Total f. o. b. mine.	Margin.
	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>	<i>Cents.</i>
Year 1916.....	66	7	21	94	6
January-March, 1917.....	50	7	15	72	28
April-August, 1917.....	43	9	12	64	36
September-October, 1917.....	46	9	13	68	32
November, 1917-March, 1918.....	52	8	12	72	28
April-December, 1918.....	56	10	11	77	23
Year 1916.....	66	7	21	94	6
Year 1917.....	46	9	13	68	32
Year 1918.....	55	9	11	75	25

These facts are shown in graphic form in Chart 14 (facing p. 100).

It will be noted that the part of the amount paid by the purchaser, which went to labor, varied greatly. It was highest (66 per cent) in 1916 and lowest (43 per cent) during the period April-August, 1917, following the expiration of the 1916 contracts and just preceding the establishment of governmental regulation. For the last nine months of 1918 (April-December) when practically the entire output of the mine was subject to the price regulation of the Fuel Administration, the share of labor was 56 per cent of the amount paid by the purchaser for coal.

It will also be noted that the part of the amount paid which went to the operator—i. e., the margin—varies greatly. It was lowest (6 per cent) in 1916, and highest (36 per cent) during the period April-August, 1917. It must not, however, be supposed that such margins were all clear profit to the operators. As has been pointed out, the Commission's "Revised" cost figures exclude any charges for interest, income, and excess-profits taxes, donations, etc., which are expenses which, while not entering into operating cost, must be met from the margin; nor is there any allowance in the total f. o. b. mine cost for the expense of selling the coal.

Considering the total investment as the amount necessary to operate the business, whether in the form of capital stock and surplus, bonds or other borrowed money, the return on the total investment in the business, after deducting the estimated selling expense (see p. 52) from the margin and before deducting interest on borrowed money or Federal income and excess profits taxes, is shown in the following statement for the years 1916, 1917 and 1918:

	1916	1917	1918
Margin between f. o. b. mine cost and sales realization.....	\$0.080	\$0.920	\$0.780
Estimated selling expense.....	.015	.05	.015
Return on total investment, before deducting interest on borrowed money and Federal income and excess profits taxes.....	.065	.905	.765

Part IV.—GENERAL CONCLUSIONS.

In conclusion, the practical effect of governmental regulation of bituminous coal prices may be summarized as follows:

In these two Pennsylvania fields and for the country in general what Governmental regulation of bituminous coal prices really did was—first, to check abnormal rise in prices, due to frantic bidding against each other by the consumers for an insufficient supply, and, second, to establish prices and maintain conditions which (after practically the entire output had come under regulation) allowed the operator margins materially lower than those prevailing for the preceding 12 months, though high enough to assure the increase in output which was vitally necessary to the successful prosecution of the war.

Furthermore in considering future policy the past experience of the bituminous coal industry should be considered.

It is highly desirable that definite up-to-date information be collected and made readily available for use. It is the opinion of the Commission that the coal situation is so important and the knowledge of coal costs so essential to intelligent policy that some governmental body should be charged with the duty of regularly obtaining and promptly compiling current costs and average prices which would be available not only for the use of the Government but also to all other interests involved—the operator, the miner, and the consumer.

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